Madras Information

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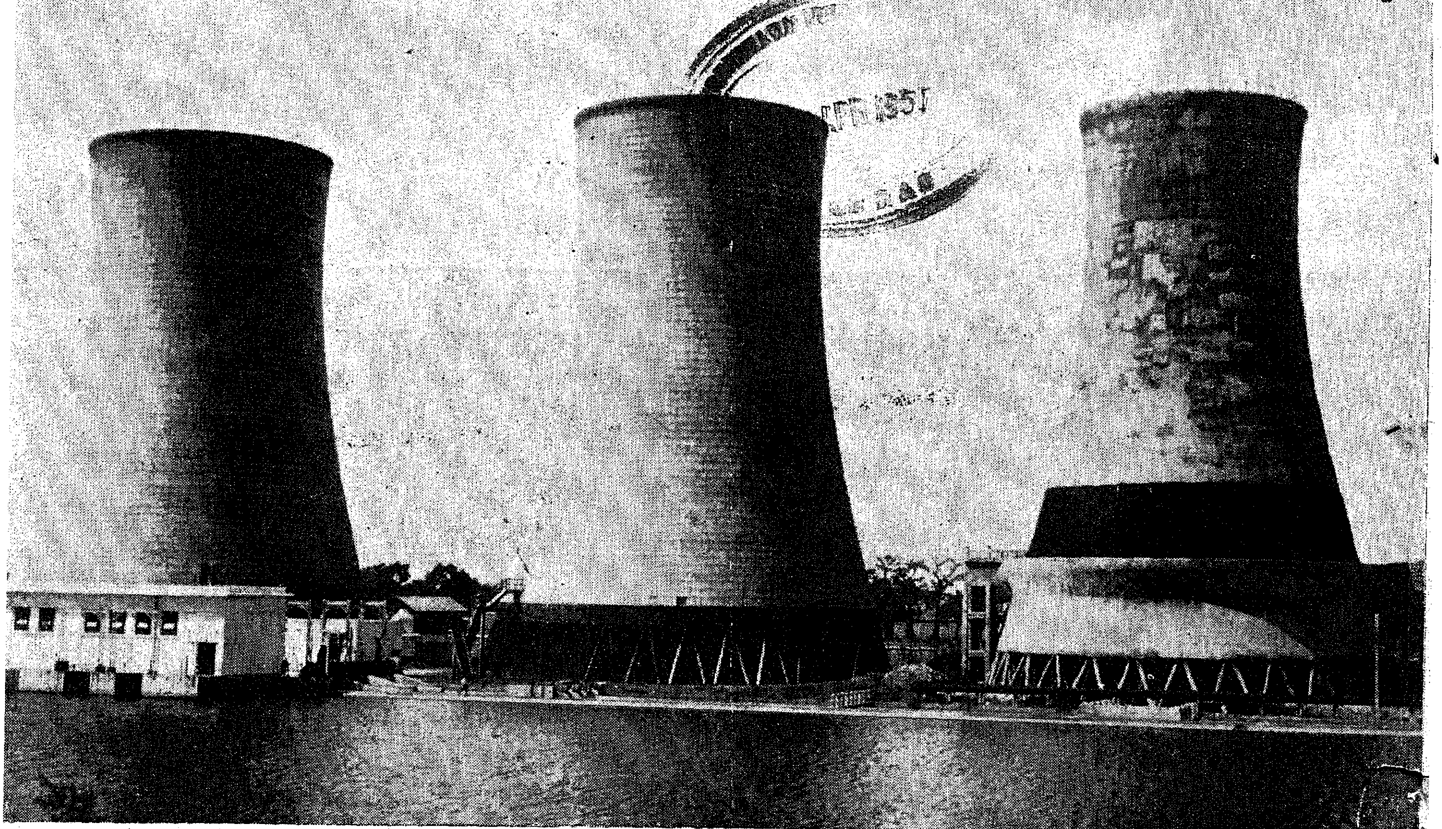
On the cover page : A rare view of the Shore Temple at Mahabalipuram. The Government have started Sculpture Training Centre at this historic city.

POWER DEVELOPMENT UNDER SECOND PLAN



By Sri V. P. APPADURAI, Chief Engineer for Electricity.

The First Five-Year Plan namely the period from 1951 to 1956 has yielded record results in various spheres and more particularly in the development of electricity. The period was confined to construction of a new power house at Moyar and extensions to the existing power stations at Pykara, Papanasam, Madurai and Madras. The installed generating capacity increased by nearly 65 per cent from 156,000 K.W. to 256,700 K.W. The full Five-year plan target of 110,200 K.W. was realized even during the fourth year of the plan. The aggregate power demand increased from 130,000 K.W. to 208,000 K.W. and the units generated from 630 millions to 1,055 millions. About 3,000 miles of H.T. lines and 4,500 miles of L.T. lines have been added to the grid during this period. Over 1,700 villages were electrified and 18,000 pumpsets connected up for supply during the plan period. Out of the allotment of Rs. 30·86 crores, a sum of Rs. 30·68 crores was spent to achieve these targets.

General outline of the Second Five-Year Plan.

The power scheme of the Madras State included in the Second Five-Year Plan as originally approved by the Planning Commission were estimated to cost Rs. 60·63 crores. A five per cent economy cut suggested by the Planning Commission and the reconstitution of the Madras State subsequently reduced this to Rs. 54·71 crores. This forms about 33 per cent of the total amount allocated to the State in the Second Plan period.

The power projects included in the Second Plan for the Madras State comprise the balance of works on schemes of the First Fve-Year Plan now under execution and new schemes to be taken up in the second plan. The schemes of the first plan which are to be continued in the second plan are the Madras Plant Extensions giving an additional installed capacity of 30,000 K.W., the Periyar H. E. Scheme with an initial installed capacity of 105,000 K.W. the transmission and distribution scheme and the acquisition of electrical undertakings, all estimated to cost Rs. 13·65 crores. The new schemes to be taken up in the Second Plan are the Kundah H. E. Scheme with an installed capacity of 180,000 K.W. transmission and distribution project, Sandynallah Reservoir Scheme, Pykara Dam power house with an installed capacity of 3,000 K.W., Papanasam Dam power house with an installed capacity of 4,000 K.W. improvements to existing power houses, sub-stations and transmission lines, investigation of new schemes and acquisition of electrical undertakings. The estimated expenditure in the five year period on the new schemes is about Rs. 41 crores.

Periyar Hydro-Electric Scheme.

Of the four schemes of the first plan extending into the second plan period, the Periyar H.E. Scheme is the biggest.

Madras Plant Extension :

To Be Completed By 1957

This scheme was sanctioned only in 1954 after conclusion of protracted negotiations of our Government with the Kerala State regarding the royalty to be paid for the use of the Periyar waters for generation of power. The scheme involves the construction of a power station in Madurai district for utilizing the irrigation discharge from the Periyar irrigation reservoir. There will be initially three numbers 50,000 H.P. turbines each directly coupled to 35,000 K.W. generators with associated step up transformers and switch gear. A fourth unit is to be installed at a later date. A system of 110, 66 and 33 K.W. transmission lines and sub-stations connecting the power house to the Madras Grid will convey power to the various load centres. The scheme is estimated to cost about Rs. 10 crores.

Work on this scheme was inaugurated 11th February 1955 by our Chief ...ster and the works are in good ...ess. Excavation of the 4,000 feet power tunnel was completed. The existing irrigation tunnel 5,900 feet long has been enlarged to admit an increased discharge of 1,600 cusecs. Construction of the forebay dam is in an advanced stage of progress. The penstock pipes have arrived and their erection is well under way. Excavation of the power house, transformer yard and tail race works has been completed. The manufacture of machinery and equipment are in good progress in Germany and it is expected that the first machine will go into operation early in 1958.

Madras Plant Extensions.

Madras Plant Extension is the second biggest scheme of the first plan continuing in the second plan period. The scheme contemplates an additional generating capacity of 60,000 K.W. in three stages to augment power supply in the Madras City. One 15,000 K.W. set under first stage and another 15,000 K.W. set under second stage have already been commissioned during the first plan period. Work on the third stage involving the erection of the 30,000 K.W. set has been commenced and is under progress. It is expected that the turbo-set will go into commercial operation by the end of 1957.

Acquisition of electrical undertakings.

The First Five-Year Plan envisaged the acquisition of 27 private and 27 local authorities undertakings. Much progress could not be made initially as the Madras Electrical Undertakings Act, 1949, was invalidated by the Supreme Court. The legal defects have since been rectified in 1954. Seven private undertakings and 22 local authorities undertakings were taken over during the first plan period leaving a balance of 20 private undertakings and 5 local authorities undertakings to be acquired during the second plan period. During the year 1956–57, Devakottai, Karaikudi, Pudukottai Electric Supply Corporation, Pudukottai State Electrical Undertaking, Nattarasankottai, Kannadukathan, Ponnamaravathi and Brahmavidayambal undertakings were acquired. It is proposed to acquire South Arcot Electric Supply Corporation on the 1st of June.

Kundah Hydro-Electric Scheme.

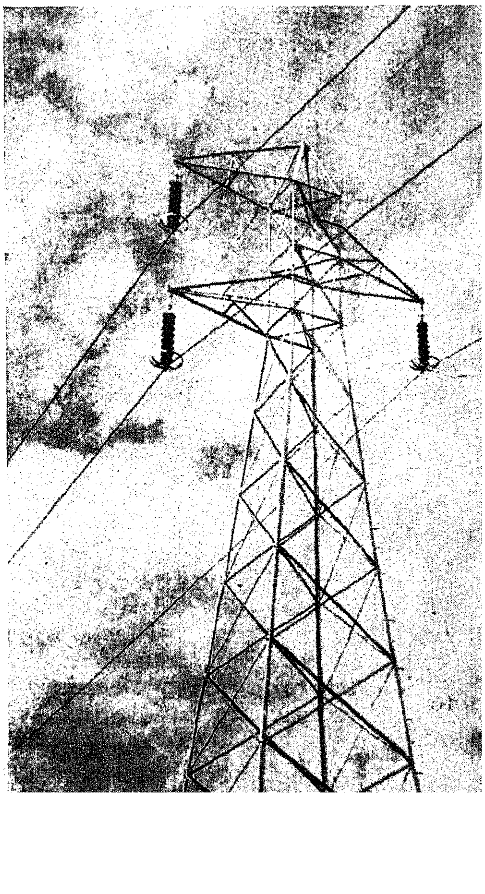
Kundah Hydro-Electric Scheme is the biggest of the new schemes of the second plan and is also the biggest scheme so far undertaken by the Madras Government. The development of the Kundah basin in the Nilgiris Hills is proposed to be taken up in two phases. The initial phase, involving the construction of two power houses, only has been investigated and is programmed to be taken up during the second plan period.

During this phase it is proposed to build four dams including the forebay dam, three tunnels, two sets of penstocks and two power stations. Each of the three dams across the Avalanche, Emerald and Upper Bhavani rivers will be nearly 200 feet in height and will be of stone masonry in cement mortar. Their lengths at top will be 1,200 feet, 1,060 feet and 1,030 feet respectively. These will be the highest dams to be built in the State. The three reservoirs will give a combined storage of 9,000 million cubic feet. The forebay dam near Kundapalam will be 94 feet in height and 390 feet in length at the top. The tunnel numbers 1 and 2 will be 14,000 feet and 12,000 feet long respectively with net diameter of 10 feet and 10 feet nine inches. They will be lined through-out with cement concrete.

The first power station will be located on the right bank of the Kundah river and the second power station on the left bank of the Pegumbuhalla stream. Initially there will be two generating sets of 20,000 K.W. each at power house No. 1 and four sets of 35,000 K.W. each at power house No. 2. Thus, at the end of the initial phase the installed capacity in the two power houses will be 180,000 K.W.

Canadian Aid for the scheme.

The scheme is getting Canadian Aid under the Colombo Plan by way of machinery and materials to the extent of 20 million dollars or about 10 crores of rupees. During December, orders



Rural Electrification:

Madras Maintains Lead

have already been placed for construction machinery, penstocks (about 6,000 tons of steel), two generating sets of 30,000 h.p. for plant 1, four generating sets each of 50,000 h.p. for plant 2. All the above Canadian equipments are estimated to cost about five crores of rupees and are expected to be delivered in about two years time. It has also been agreed by the Canadian Government that all equipments, power transformers and switch-gear required for the two power plants, structures and equipment required for the sub-stations at Thudiyalur, Singarappet, Salem and Villivakkam and transmission line towers only for the portion between Kundah power plants 1 and 2 and Kundah to Salem only would be covered by the Canadian Aid of 20 million dollars already agreed upon.

To complete the transmission lines and thereby complete the project in all its aspects we would require a further aid of about 6 million dollars. The Government of Madras have approached the Government of India and through them the Government of Canada for the further aid to complete the scheme. It is expected that the aid will come through in good time.

Excavation for foundations at both the flanks of the Avalanche, Emerald and forebay dam sites as also the power house sites are in good progress. Grading of penstocks for both the plants is also under progress. The tunnel work, has been commenced. The entire organization has been so geared that works are carried out simultaneously at all those places and the civil works will be completed in time to receive the machinery from Canada. The first unit is expected to be commissioned by 1959 and the entire plant by 1960.

Transmission and Distribution Project.

The transmission and distribution project envisages the construction of a number of secondary transmission lines required for taking the additional power to the remotest corners of the State.

Including the transmission lines proposed under the Kundah and Periyar hydro-electric schemes an additional 8,300 miles of high tension lines and 8,000 miles of low tension lines will be erected in the second plan period. In addition to the transmission lines the scheme is also intended for building up distribution lines to expand rural electrification programme and bring electricity to the nooks and corners of the State.

Rural Electrification.

Madras State already ranks first in the matter of rural electrification with over 3,000 villages electrified to the end of 1955-56. During this year alone we have electrified about 1,000 villages and it is expected that about 5,000 villages will be electrified during the plan period thus bringing the total number of villages electrified at the end of the plan period to about 8,000. About 32,000 pumspsets were working on electricity at the end of the first plan period and it is expected that this number will be increased to 57,000 by the end of second plan period.

Sandynallah reversoir scheme.

The Sandynallah reservoir scheme envisages the construction of a storage reservoir across the Sandynallah river about 6 miles from Ootacamund. The water thus stored will be diverted to Pykara Reservoir through a tunnel and this will result in an additional annual generation of 54 million units at Pykara and Moyar power houses. The scheme is programmed to be completed by 1959-60 and would involve an expenditure of about Rs. 97 lakhs.

Industrial development and the need for the investigation of new schemes.

The power demand of the Madras Grid has been steadily on the increase. During the plan period large scale industrial development both in the private and public sectors requiring large blocks of power has been contemplated. Important among these are the Aluminium Industry in the public sector proposed to be established in the Salem district to exploit the bauxite ores and the caustic soda *cum* soda ash plant in the private sector to be establihsed in Arumuganeri in Tirunelveli district. These two industries alone require about 50,000 to 60,000 K.W. of power. A paper industry in the private sector in Tirunelveli district and another in the public sector in the Nilgiris district, a synthetic gem factory in private sector in Mettupalayam, an iron industry in the Salem district are some of the other new industries expected to come in for supply of power during the Second Five-year Plan. The railway authorities have a proposal to extend the electric traction from Tambaram to Villupuram in the main line. Apart from these the department will have to meet the growing requirements of the small scale industries and also the Lignite mining load till the thermal station

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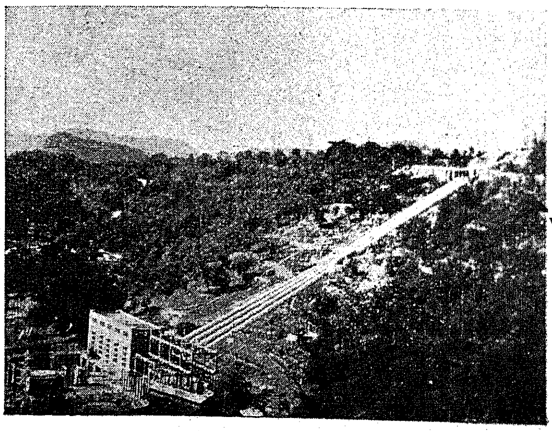

Papanasam Power House.

70,000-Ton Fertiliser Factory At Neyveli

Rs. 21 Crores To Be Spent: Trichy Gypsum Tested At Sindri

The execution of a multi-purpose project for the mining of 3·5 million tons of lignite per annum at Neyveli in Madras State has been sanctioned by the Government of India, following confirmation of the utility of lignite as fuel by large scale tests in Germany. The target date for exposing the first cut in the lignite seam is early in 1960 and the full production stage of the mine will be reached at the end of 1960. This Rs. 68 crores project is designed to produce besides carbonised briquettes, electric power and fertilisers.

The lignite mined at Neyveli, the tests have revealed, has a moisture content of 50 per cent and an ash content of 3 per cent and its calorific value is about 5,500 B. Th. U. per lb. Thus about 2½ tons of raw lignite would be equivalent in thermal value to a ton of good coal and the annual target of production of 3·5 million tons would, therefore, be equivalent to a little over a million and a quarter tons of good coal. Raw lignite is, however, bulky and liable to spontaneous combustion. It has also to be briquetted, bringing the moisture down to about 15 per cent.

The lignite produced at Neyveli would be a vital factor in the industrial development of Madras which has been much retarded owing to want of electric power, which is also needed for the development of agriculture in the State. And as the most economic utilisation of lignite is to use it as fuel in boilers close to the mine itself, generation of electric power is the most important constituent scheme in the integrated project. The installed capacity of the thermal power station will be 200 million watts, consisting of two units, the first of which is expected to be commissioned by the middle of 1960 and the second by the end of that year.

Production of Fertilisers.

Another aspect of the multi-purpose project is the production of nitrogenous fertilisers which would help step up agricultural production. The fertiliser plant in the project is intended to produce fertilisers with a nitrogen content of 70,000 tons per annum. The precise kind and quantities of the fertilisers to be produced have not yet been determined, but tentatively it has been proposed that 200,000 tons of ammonium sulphate-nitrate and 46,000 tons of urea should be produced. Tests on gypsum available at Tiruchirappalli are now being conducted in the Sindri Fertilisers and a decision on these matters will be taken soon after the results of the tests are available.

The balance of lignite, after meeting the requirements of the power house and fertiliser plant, will be utilised for producing briquettes. For this purpose it is proposed to set up a plant for the production of 714,000 tons of lignite briquettes which, on carbonisation, would yield 380,000 tons of carbonised briquettes and by-products. Under the aid from the T.C.M., a pilot plant for the briquetting and carbonising equipment is expected to be received and erected by the end of October, 1957. After completion of the tests with the plant, preparation of the specifications for the briquetting and carbonising equipment will be taken up. The estimated cost of this project is about Rs. 10 crores. Operation of the plant on a commercial scale is expected to commence by about October 1961.

Plans for open cut.

A detailed plan of the first open cut of the mine to be excavated has been submitted by the Consulting Engineers, Messrs. Powell Duffryn, Technical Services, Limited, and the Government have sanctioned the purchase of conventional earth-moving machinery and specialised mining equipment at a total cost of about Rs. 5·5 crores. While the shipment of the first unit of the specialised equipment is expected to begin about January 1958 and be completed by about November 1959, the conventional machines are being delivered in batches and the delivery is expected to be completed by the middle of 1957. To keep to the target date of mining lignite, it is proposed to commission the conventional machines on hand and those that might have been supplied before the end of this year and start operations on the removal of overburden in the first mine cut area in March 1957.

The estimated cost of the lignite project, excluding the fertiliser unit, will be Rs. 46·90 crores, out of which Rs. 31 crores will be in the Second Plan period. The fertiliser unit is estimated to cost Rs. 21 crores and the construction phase of this scheme will last through the period 1957–61.

The Government of India have sanctioned the acquisition of an area of about 26,750 acres in 22 villages in Vriddhachalam and Cuddalore taluks in Madras State at an estimated cost of Rs. 180 lakhs. This will meet the needs of the lignite project, including the large scale mining of lignite, the establishment of the factory and township, etc., and other requirements of the project. Work on land acquisition is already in progress.

Steps taken so far.

Steps taken by the Government of India so far include rehabilitation of displaced persons, at an estimated cost of Rs. 10 lakhs, in about 101,550

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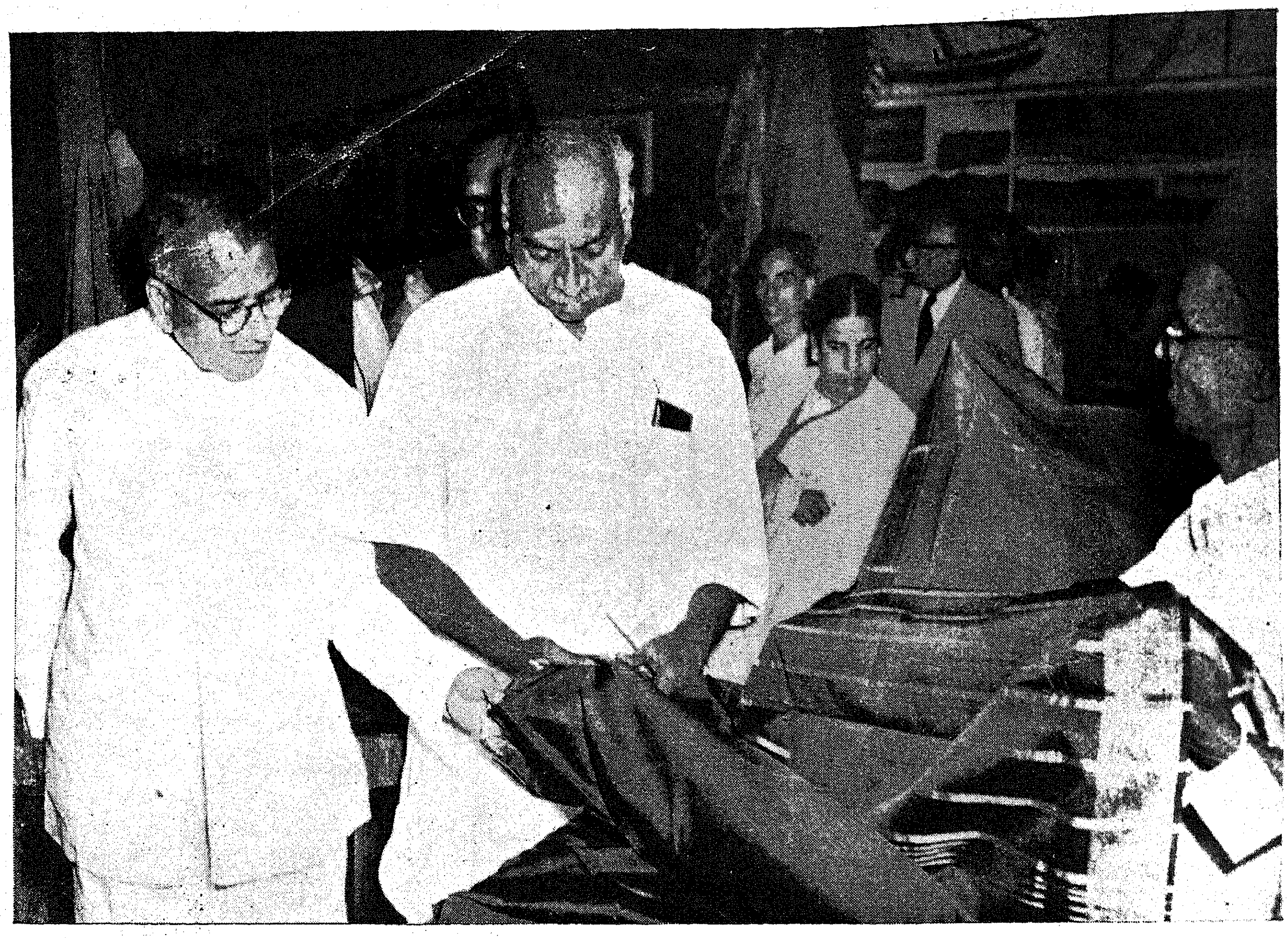


Sri T. T. Krishnamachari, Union Finance Minister, and Sri K. Kamaraj, Chief Minister, examining a silk saree after ... ' at the Rattan Bazaar, Madras, was declared open on March 6, 1957.

Government Have Done For Handlooms?

RAMACHANDRAN, I.A.S., Director of Handlooms.

...oms in this State ... workers engaged in preparatory and finishing processes provide employment to nearly 20 lakhs of people. Of about 1,500 million yards of cloth estimated to be produced on the handlooms in the country about 300 million yards are produced in this State.

The fortunes of this industry however, have been notoriously unstable and the industry has had to face serious crisis on several occasions. It had to face the worst ever crisis in 1951 as the general price level in India started moving downward partly due to international factors and partly due to larger availability of consumer goods. Foreign demand for Indian textiles declined on account of foreign competition. The Handloom Industry could not withstand this 'blizzard' because it was unorganised and lacked proper guidance and facilities for effective marketing of its products. Sales of handloom cloth declined sharply and large unsold stocks of cloth began to accumulate in handloom factories, Co-operative societies and with individual weavers. This accumulation occurring as it did closely on the heels of a general recession in prices aided by consumers' resistance resulted in curtailment of production of handloom fabrics and in many cases led to complete cessation of production. The handloom weavers were thrown out of employment and the producers of handloom cloth had to sustain heavy financial losses. The position became so acute that in several important weavers' centres Government had to open gruel centres to provide subsistence to the weavers.

Prompt measures of the Government.

The Government recognized that this situation called for bold and prompt measures. They also realised that assistance could be rendered to the weavers only through the medium of an organisation which would assure to the weavers the full fruits of their labour. The provision of full employment through weavers' co-operative

societies became the sheet anchor of the Government's policy. They sanctioned what is known as the Relief Scheme under which weavers outside the co-operative fold were provided with interest-free advance up to Rs. 25 each to enable them to join the cooperative societies and take shares in them. A sum of Rs. 5 lakhs was placed at the disposal of the Registrar of Co-operative Societies for this purpose. At the same time to enable the co-operative societies to supply yarn and give continuous employment the Government sanctioned a loan of Rs. 35 lakhs to be routed through the Co-operative Banks.

The 1952 *crisis.*

The Government of India also recognized the enormity of the problem facing the handloom industry. The crisis which the Handloom Industry had to face in 1952 was primarily a crisis in the consumption of handloom cloth. This situation led the Government of India to formulate measures designed to stimulate the consumption of handloom cloth. The sales of handloom cloth had fallen off largely because of the disparity in the prices of handloom and mill cloth. The Government of India now sought to a bridge the difference by the levy of an additional excise duty on mill-made cloth which was earmarked specifically for the purpose of developing Khadi and other industries and promoting the sale of Khadi and other handloom cloth. They also set up an All-India Handloom Board with comprehensive functions. In order to create a sheltered market for the products of the handloom industry, they also restricted the monthly production of dhoties by the mill industry to 60 per cent of the average monthly packings of this variety of cloth during the twelve months ending March 1952, and also prohibited the piece-dyeing of sarees by the mill industry. Besides certain varieties such as lungies, Sarongs, bed-sheets, bed-spreads, counterpanes, gauze and bandage cloth were reserved exclusively for the handloom industry.

The creation of Cess Fund.

The creation of a cess fund about three years ago for the development of the handloom industry was a turning point in its history. Since then the industry has recorded continuous and sustained progress without any serious setbacks. The Government of India have till now sanctioned over Rs. 475 lakhs as loans and grants for the development of the industry in this State. The amounts sanctioned by the Government have progressively increased from year to year. From about Rs. 98 lakhs in 1953–54 the allotments increased to Rs. 118 lakhs in 1954–55 and 1955–56, the ceiling share for this State for the current year was announced to be Rs. 147·5 lakhs but as against this Government of India have already sanctioned schemes costing about Rs. 190 lakhs for the next year also the share of the State is expected to be Rs. 178 lakhs and at least Rs. 8 crores is expected to be made available to this State during the Second Five-Year Plan period out of a total of Rs. 34 crores allotted for the industry by the Planning Commission.

The Government of Madras have taken full advantage of the Cess Fund schemes to promote co-operative effort among the handloom weavers. Share capital loans at Rs. 21–4–0 and Rs. 25 in some cases have been given free of interest to the weavers to enable them to join the weavers' co-operative societies. Under the stimulus of this assistance the number of looms in the co-operative fold has increased from 98,000 on 31st December 1953 to 1st 1·7 lakhs on 31st December 1956. The number of looms in the co-operative fold now represents nearly 33 per cent of the looms in the entire State. The number of societies has also increased from 566 on 31st December 1953 to 860 on 31st December 1956. The share capital held by the weavers in the cooperative societies has increased from about Rs. 64 lakhs to Rs. 75 lakhs and by March this year is expected to increase further to about 80 lakhs.

Subsidy to Weavers.

The Government have not been slow to recognise that marketing is the crux of the problem of the handloom industry and have taken several steps to stimulate sales of handloom cloth. By far the most spectacular measure so far undertaken to set up the sales of handloom cloth is the grant of subsidy to weaver's co-operative societies to recoupe a rebate allowed by them on their sales at 0–1–6 annas in the rupee. This rebate is now allowed by weavers' societies on sales to consumers as well as wholesalers; besides consumers' cooperative societies have also been encouraged to deal in handloom cloth by being allowed subsidies to recoup the rebate allowed by them on the sales of handloom cloth. On special occasions such as the Handloom Week and the Deepavali season an enhanced rebate of 2 annas per rupee has been permitted on sales of handloom cloth. The subsidies disbursed by the State on this account have increased progressively and during the current year alone claims aggregating to nearly Rs. 100 lakhs are expected to be recouped. It cannot be gainsaid that rebate on sales of handloom cloth is the lynch pin of the Government's programme for the promotion of markets for the handloom cloth and it has more than any other single measure served to popularise handloom cloth in new areas and among new classes.

In order to enable the Madras State Handloom Weavers' Co-operative Society the Apex Organisation of weavers' societies in the State to extend its marketing activities interest free loans to the extent of Rs. 74·93 lakhs have been disbursed and the State Society has now been on the average procuring and selling goods to the tune of Rs. 12 lakhs a month through its network of depots and emporia all over the country.

A scheme has also been drawn up to promote foreign markets for handloom goods in the Middle East and Far Eastern countries and the scheme is being worked by the all-India Handloom Board through the agency of the Madras State Handloom Weavers' Co-operative Society. Under this scheme handloom cloth depots have been opened at Aden, Colombo, Singapore and Bankok. There has of late been a growing interest in handloom fabrics in American Markets particularly for the variety known as 'Madras Handkerchiefs'. With a view to concert measures for the exploitation of this market the Government of India recently invited a team of American experts to tour the different handloom centres and suggest ways and means of stimulating exports of handloom cloth to America. The team has in its preliminary report indicated that there is a potential market for Indian handloom goods in U.S.A.

The Government have recognised that a permenant improvement in the condition of weavers can be effected only if the technique of the industry is improved and the quality of the goods is maintained at a high level. In order

Co-operative Spinning Mills: Government Assistance In Collecting Share Capital

to enable the handlooms to produce goods of uniform texture steel reeds costing about Rs. 10 each are supplied free of cost to the weavers. Along with these steel reeds varnished healds are also supplied to them. During the current year alone allotments have been made to the weavers' co-operative societies for the purchase of 2,500 sets of varnished healds. Take-up-motion attachments costing about Rs. 70 each are also supplied to the handloom weavers so that fabrics with uniform picks comparable to mill cloth could be produced. Recognising that the production on pedal looms is higher than an ordinary pit loom Government are also supplying free pedal looms costing about Rs. 500 each.

The Madras State Handloom Weavers' Co-operative Society has been provided with financial assistance to enable it to appoint technical staff to demonstrate to the weavers the use of improved appliances.

Need to adapt new designs and patterns.

The handloom industry can maintain for itself a stable market only if it adapts itself to the changing tastes of the consumers. It is necessary for them to adopt new designs and patterns dictated by market conditions. In order to popularise such new designs and patterns among handloom weavers the State Handloom Weavers' Co-operative Society haswith financial assistance from Cess Fund set up four pattern making factories at Cannanore. Madurai, Salem and Tirunelveli. A scheme for imparting training to the weavers in these pattern Making Factories has also been drawn up. The All-India Handloom Board has also planned to set up two designing centres at Madras and Kancheepuram directly under its control.

With subsidies from the Government of India and the State Government a Calendering Plant has also been put up at Erode and the plant has now gone into production. Such processing of handloom cloth is expected to increse its sales appeal. In order to improve the quality of dyes used by the Handloom industry two modern up-to-date dye factories will be set up at Salem and Kancheepuram. The technical feasibility of setting up a 'sanforizing' plant for pre-shrinking handloom fabrics destined for foreign markets is now being examined.

Co-operative Spinning Mills.

It has also been felt for a long time that the weavers' co-operative societies should not be dependant wholly on spinning mills in the private sector and that they should themselves own and operate spinning mills on a co-operative basis. A co-operative spinning mill is already coming up at Tirunelveli and the Government are also now actively assisting in the collection of share capital for another co-operative spinning mill to be set up at Srivilliputhur. Share capital to the extent of Rs. 7 lakhs has already been collected and as soon as a target of Rs. 10 lakhs is reached the State Government will themselves take shares in the mills to the extent of Rs. 10 lakhs with loans from Cess fund.

The Government have not contented themselves with merely improving the economic condition of the handloom weavers. They have also recognised that the handloom weaver should be enabled to live in healthy surroundings. Therefore they have drawn up schemes for the setting up of housing colonies for the weavers.

There is one class of weavers, viz., those without their own looms who will not derive much benefit from the normal pattern of schemes implemented through weavers' co-operative societies. It has been realised that this class of weavers could be helped only through a factory run on co-operative lines. Two such co-operative factories called Industrial Co-operative Societies were first formed at Cannanore in Malabar to provide employment to weavers in two factories which have closed down. Encouraged by the success of these two ventures which were indeed the pioneer in the field of industrial co-operation in India the Government have sanctioned the schemes for the setting up of three Industrial Co-operative Societies in the Tamil district, one each at Karur, Madurai and Aruppukottai. Scheme for the establishment of similar industrial co-operatives at Manavasi near Karur in Tiruchirappalli district and at Arani in Chingleput District are under consideration. These Industrial Co-operative Societies will not only provide continuous employment to the loomless weavers but it will also teach them how to manage their own enterprises. The Industrial Co-operative Societies are indeed shining examples of an Industrial democracy in operation.

Assistance from Cess Fund has also been extended to the silk handloom industry. Societies have been started at Kancheepuram, Kumbakonam, Thirubuvanam Salem, Manambuchavadi, Mannargudi and Arni. A scheme for the formation of a Silk Weavers' Co-operative Society at Darasuram has been approved and forwarded to the All-India Handloom Board for sanction of funds. The silk looms admitted in weavers' co-operative societies are provided with working capital at the rate of Rs. 500 per loom.

The Government of Madras have also recognised that the large class of weavers outside the co-operative fold should also be given financial assistance for the improvement of their socio-economic condition. The Second Five-Year Plan of the State provides for the grants of loans as working capital to independant weavers. Schemes have also been included for the supply of improved appliances such as reeds, pedal looms, take-up-motion attachments, etc. It is also proposed to form marketing organisations to stimulate the marketing of cloth produced by weavers outside the co-operative fold.

Literary Workshop At Tirukkazhukundram

Training Of Authors To Write For Neo-Literates

The inaguration of the Literary Workshop at Tirukkazhukundram in February 1957 registers an important stage in the organised efforts of the Government to wipe out illiteracy from among the adult population in this State. Since the attainment of the Independence, it has been one of the vital planks of the developmental programme of the Government to spread education as quickly as possible among the masses. Their campaign in this regard is a two-pronged one consisting on the one hand of multiplying the number of elementary schools for the benefit of school-age children and on the other of organised efforts to spread literacy among the adults. Ere the Second Five-Year Plan period comes to an end, it is hoped that elementary education as well as literacy among the adults will have made substantial progress.

One of the serious problems involved in the spread of mass education is to keep the adults who have been made literate from relapsing into illiteracy. It is here primarily that Literary Workshops come in.

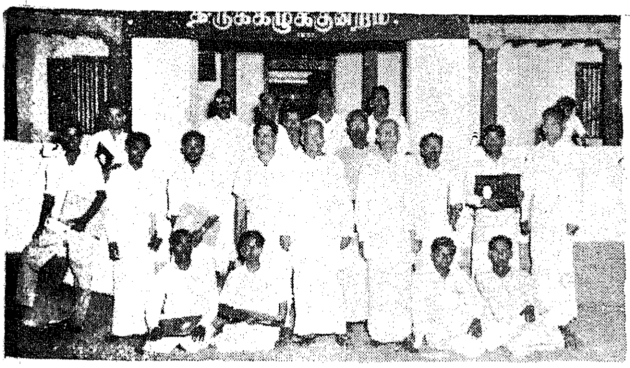
The purpose of the Literary Workshop at Tirukkazhukundram is to train authors in the technique of writing for neo literates. This is the second of its kind in the State, the first being the one conducted at Peelamedu in Coimbatore district in 1955. The location of this Workshop in Tirukkazhukundram is not without significance. The place is a rural area and there is good scope for the trainees to move with rural folks, understand their dialects and utilise the knowledge thus gained in the writing of books. After all, more than 70 per cent of the population of this country is concentrated in villages and if literacy among the adults in the rural areas are wiped off to an appreciable extent, then half the problem of adult education in the country will be solved. The trainees are paid an honorarium of Rs. 150 besides travelling allowance and the period of training lasts for six weeks.

It will be interesting in this connection to mention a few details as to how trainees get to acquire the equipment necessary for enabling them to write books for neo-literates. The trainees, generally, attend festivals where villagers of different types congregate such as Masimaham at Mahabalipuram, and the weekly Shandy at Tirukkazhukundram. They also go to neighbouring villages and tape-record the spoken vocabulary of groups of villagers engaged in different crafts such as agriculture, weaving, fishing, etc. The recorded conversations are relayed at the Literary Workshop over and over again and certain live words are listed out therefrom. Thus a list of words, phrases, idioms and familiar sayings of the villagers is drawn up as a result of direct observations.

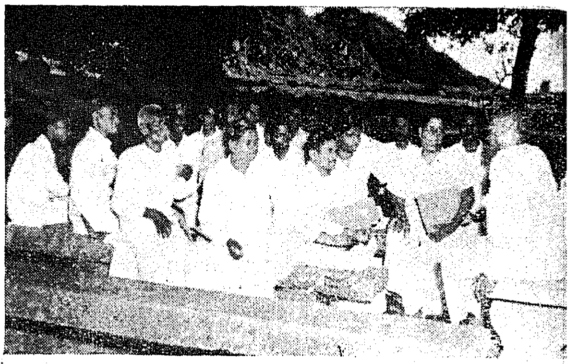
Side by side with these, discussions are also held particularly regarding the technique of the preparation of literature to suit the reading ability and powers of comprehension of neo-literate adults. After completing these preliminaries, the writers settle down to compose folders based upon the tenents discussed and agreed upon. A hundred folders are quickly drawn up and these are unofficially tested by the authors in their ownway on neo-literates whom they manage to contact on their own initiative during spare hours. After this is finished, the finalisation of the texts is taken up. One special feature of this is the presence of neo-literates themselves in the discussion groups. Sometimes they make very valuable suggestions and these are accepted. After the texts are finalised in this way, the manuscripts are officially tested on neo-literates in the neighbouring population centres. Then the entire process of testing is tape-recorded for further scrutiny and discussion by the members at leisure. The folders are generally made of 4 to 8 pages having not exceeding 16 words per page. Every page is illustrated by two artists specially employed for the purpose in the Workshop. Booklets containing not exceeding 1,000 words and text books containing up to 3,000 words then follow from the pen of each writer. Manuscripts of these books and booklets are also subjected to the same process of construction, correction and finalisation as in the case of folders.

The period of training is not one of unrelieved monotony without any diversion or recreation. There is provision in the programme of the Literary Workshop for change and recreation. All the writers move in a body sometimes on an excursion to interesting places in the neighbourhood. The trainees have already visited the I.A.F. Training Centre at Tambaram, the bird sanctuary at Vedanthangal, Mahabalipuram, Kancheepuram Weavers Centre and similar other places. Other entertainments are also held.

The role of such Literary Workshops under the scheme of Parliamentary Democracy cannot be over-estimated. An educated electorate is one of the basic conditions for the success of Parliamentary Democracy and in the matter of educating the electorate, Literary Workshops serve as a vast power house from where transmitters carry the rays of knowledge to the masses through the authors trained therein.



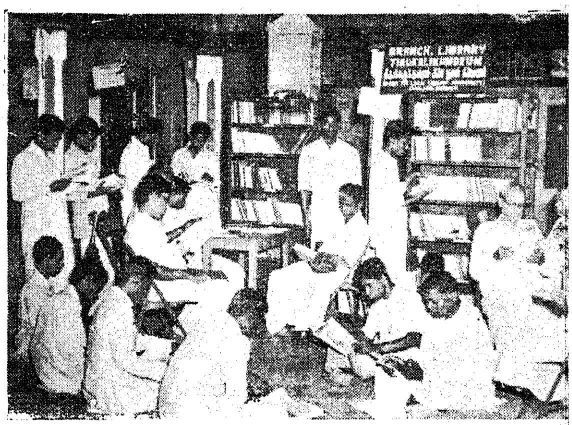
LITERARY WORKSHOP At Tirukkazhukundram



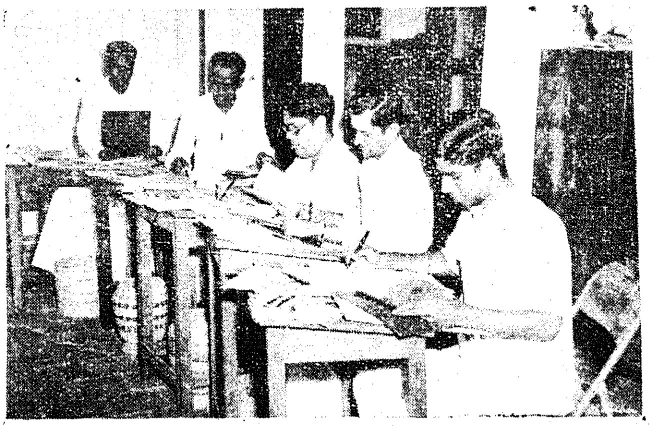
Top: *The trainees at Tirukkazhukundram with Sri A. G. Vilvaroy, Director of the Literary Workshop.*

Top: *The programme for the day is chalked out. The Director explains to the trainees the methods that should be adopted in preparing the vocabulary.*

Left: *The authors under training pick up conversation with the villagers to have first-hand knowledge of the language of the masses.*



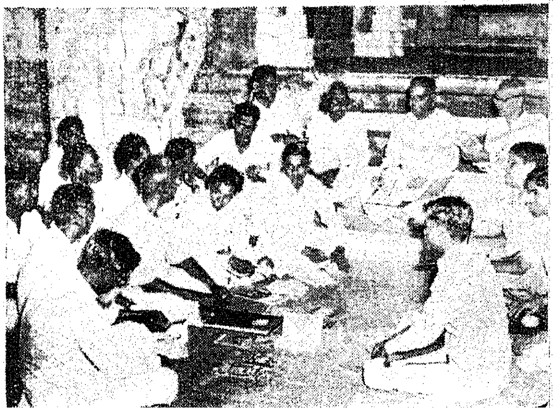
Top: *The spoken vocabulary of groups of villagers are tape recorded. This method helps in collecting some live words and familiar idioms used by them.*



Top and Left: *Referring to eminent authors gives a correct picture to the trainees. The first-hand experience coupled with thorough knowledge of literature help the trainees to produce better manuscripts.*

Left: *Preparation of charts which are easy means of imparting knowledge also receive attention at the workshop.*

Right: *The summing up of the experience gained and exchange of views among the trainees.*



Community Development Programmes In Madras State

On December 31st, 1956, there were 76 active and 15 Post Intensive Blocks functioning in the State (including the 2 Blocks in Kanyakumari district). These Blocks, 14,748 square miles in extent, covered 5,415 villages with a population of 86·53 lakhs. The development areas thus cover 30% of the area and 31% of the villages in the Re-organised State of Madras. Details of Government expenditure and the Physical achievements discussed below do not cover the 21 Blocks started on October 1956.

For the implementation of the programmes, 289 lakhs of rupees have so far been spent in the Community Projects and Community Development areas of the State which represented 70 per cent of the pro-rata target under expenditure. Besides, a sum of Rs. 71 lakhs had been spent up to 31st December 1956, in implementing the development programmes in the National Extension Service areas which accounted for an achievement of 76 per cent of the pro-rata target contemplated. A study of the position of Projects and Blocks which had completed the normal term of 4 years or 3 years as the case may be, shows that development expenditure reached the high figure of 96 per cent in the Project areas of Periyar and Lower Bhavani and 84 per cent in the areas covered by Community Development Blocks of the 1953 series. The Lower Bhavani Project and the Blocks of Usilampatti, Kaveripattinam, Alangudi and Singampuneri had all exceeded on 31st December 1956, the prorata targets appropriated to the period of their duration. The Periyar Project and the Blocks of Chidambaram, Tiruthuraipoondi, Musiri, Valathi, Kumbakonam (North) and Mundakalathur had spent more than 80 per cent of the amount targeted up to 31st December 1956.

Agriculture.

The extension programme in the field of agriculture embraced all measures necessary to make the Industry efficient with a view to achieving increased production according to targets laid in the Second Five-Year Plan. The foremost among the measures was the distribution of fertilisers and improved seeds. In all 51·5 lakhs of maunds of fertilisers were distributed in the Community Development and National Extension Service areas of Madras State up to the period under review. Improved seeds distributed amounted to 1·77 lakhs of maunds. The tempo of the progress under these two items has been on the increase from year to year: Compared to 1954-55, the achievement during the year 1955–56 was 8 per cent more in respect of fertilisers and 132 per cent more in respect of seeds distributed. In addition to chemical fertilisers and green manure rural compost was prepared out of 157,447 compost pits dug up to the period ending 31st December 1956. The use of green manure was popularised in many areas in the State and as a result of this nearly 93 thousand acres were under Sesbania during the official year 1955–56. Other green-manure like Kolinzi, Glyricidia, sunnhemp, etc., accounted for 1·35 lakhs of acres. In order to bring greater extents under improved strains, primary and secondary seed farms were arranged and the seed multiplication schemes were promoted to make the maximun number of ryots come within easy reach of quality seeds. Village seed farms were arranged for paddy and millets on 15,838 acres, 4,199 acres, covering 1,850 villages and 646 villages, respectively during the year.

With a view to impress on the villages; the efficacy of improved agricultural practices like Japanese method, use of chemical fertilisers etc., 27,721 demonstration plots had been laid up to 31st December 1956 in the Community Development areas in the State and 32,828 demonstrations were conducted in these areas. The number of demonstrations conducted during the year 1955–56 was 116 per cent more than the achievement in the previous year. Nearly 2·2 lakhs of ryots attended those demonstration every year and the popularity attained by them is evidenced by the acreage brought under Japanese method of paddy cultivation which was as high as 2·29 lakhs of acres during the official year 1955–56. Other improved methods of cultivation accounted for 1·05 lakhs of acres. 14,096 improved implements had either sold or distributed free to the ryots up to December 1956. So far 1·94 lakhs of fruit trees and 28·6 lakhs of trees of economic importance had been planted in the development areas 8,517 acres were brought under fruits and 15,248 acres were brought under vegetables up to the quarter ended 31st December 1956. 40,527 acres of waste land were reclaimed and 204,935 additional acres were brought under irrigation, since the inception of the Community Development Programmes in the State in October 1952. Measures to save crops from the ravages of locusts, etc. were regularly adopted in the development areas of the State nearly 1·30 lakhs of acres were so saved in the official year 1955-56.

Animal Husbandry.

Supply of pedigree animals and pedigree birds, castration of bulls, inoculation and treatment of cattle were some of the important programmes undertaken to improve the Livestock in the development areas under discussion. Six hundred and twenty pedigree animals and 14,559 pedigree birds had been supplied in the Community Development areas of Madras State up to December 31st, 1956 to upgrade the existing stock of local animals and birds. Twenty-six key village centres and 24 Veterinary dispensaries, had been started in the Community Development areas of Madras up to 31st December 1956. 9·9 lakhs of cattle were inoculated and vaccinated and 4·84 lakhs of cattle and 75,986 birds were treated for various diseases up to December 31st, 1956. Nine hundred and thirty poultry farm had been started in the Community Develop-

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More Than 2,000 Miles Of Roads Laid In Development Areas

ment areas of Madras State which apart from improving the breed of birds provided part time employment. Bulls were maintained under the Premium scheme in the various Community Development areas of Madras State and 136 bulls were included in this scheme during the year 1955-56. The staff of the Animal Husbandry department visited in the official year 1955–56 as many as 3,324 villages. Two hundred and eighteen lectures and propaganda meetings were conducted by them where the villagers received instructions for the proper upkeep of animals, for the prevention of diseases affecting them and for raising fodder crops for animals. Besides exhibitions, cattle shows and cattle fairs were conducted in all the Block development areas of the State in different parts of the year. Forty-four exhibitions, 37 cattle shows, 36 cattle fairs were conducted during the official year ending March 1956.

Fisheries.

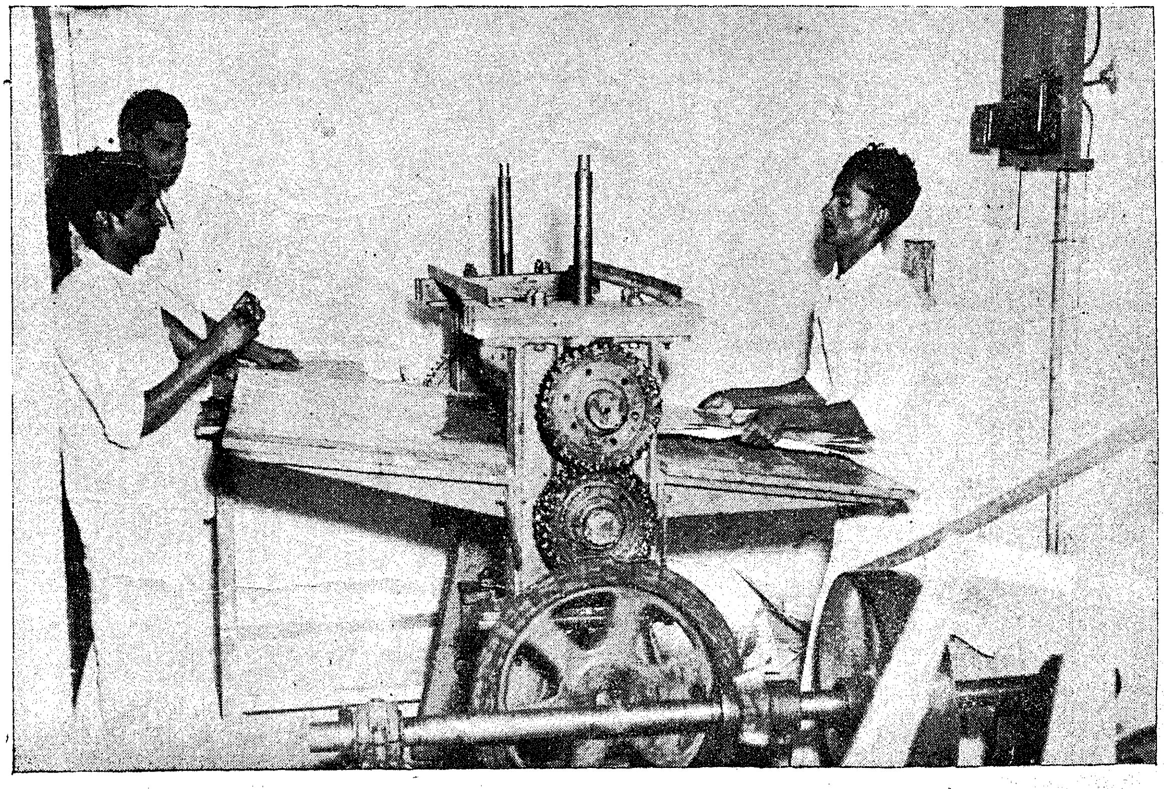
Two hundred and ninety-four tanks were stocked with fish and 8·1 lakhs of fingerlings were supplied in the Community Development and National Extension Service Block areas of the State.

Health and Rural Sanitation.

26,684 soakage pits, 6,281 rural latrines and 182,249 yards of drains were constructed in the Community Development and National Extension Service areas to implement measures to improve rural Health and Sanitation. Four hundred and nineteen water Seal Slabs were sold to ryots at concessional rates with a view to enable them to construct septic latrines. There were 201 dispensaries, hospitals, Child Welfare, Maternity centres, Rural dispensaries functioning in the Community Development areas of Madras State and nearly 6·25 lakhs of people were given treatment in the various institutions.

Rural water supply.

Two thousand three hundred and sixty five wells were constructed and 2,320 wells were renovated up to the quarter ending 31st December 1956. In Lower Bhavani, schemes for protected water supply were in progress in 35 villages. Out of 549 wells works estimated to cost Rs. 14 lakhs, sanctioned for execution in the Lower Bhavani area, 311 works had been completed at a cost of Rs. 9·01 lakhs.



Paper making at T. Kalluppatti Development Block near Madurai.

Education and Social Education.

Since the inception of the Community Development Programmes, 876 new schools were opened in the Community Development areas of Madras State. Seven hundred and thirty four ordinary schools were converted into basic up to 31st December 1956. Construction of new school buildings and addition to old buildings were undertaken in many of the Community Development Blocks with the people participating enthusiastically by offers of gifts and donations of land, materials and manual labour. Lower Bhavani area alone took credit for the construction of new school buildings in 34 villages. Fourteen school buildings were completed in Chinnasalem Block. To implement schemes for the promotion of adult literacy 2,143 adult education centres were started and 92,993 adults were either trained or were under training at the end of December 1956. 2,797 recreation centres including libraries and reading rooms were started with a view to provide recreation facilities to the villagers in these areas and to further community living. Besides 7,246 community entertainments were organised in these areas which served to propagate the aims of development programmes in a large measure.

Communications.

928 miles of pucca roads and 1,212 miles of katcha roads had been laid in the Community Development areas upto the period ending December 1956. Improvements to 679 miles of existing roads and construction of 909 culverts had also been effected during this period.

Co-operation.

In view of the great importance attached to Co-operative Societies both as an instrument of production and marketing, the development of Co-operative Societies continued to receive high priority. 864 Co-operative Societies had been started up to 31st December 1956 in the Community Development areas of Madras State and 1,38,069 new members were enrolled. 169 societies were converted into Multi-purpose Co-operative Societies.

Rural arts and crafts

Sixty nine industrial units were started and 121 old units revived during the period under review. Loans to the tune of Rs. 23·36 lakhs were granted to these unist.

A sum of Rs. 1·73 lakhs has been spent in furthering measures to promote the village oil industry. Opening of demonstration-cum-training centres and conversion of old ghanies to Wardha type were some of the features that marked the development in this regard.

Cumbly weaving, toy making, coir making, mat weaving, palmgur production, manufacture of bullock shoe nails, gun-metalware, leather goods, etc., are some of the industries that have been started in the Community Development areas, either under the Co-operative or other auspices with financial aid from the Block or other funds.

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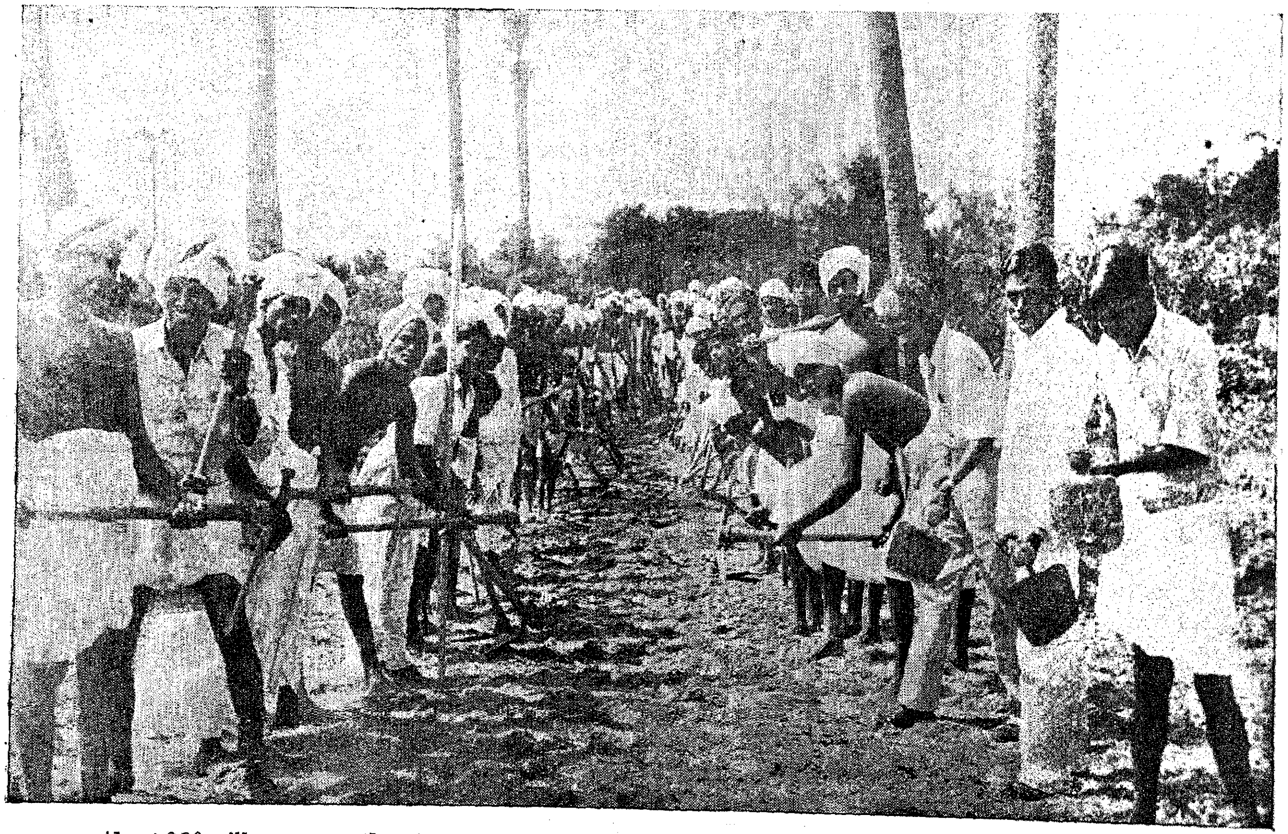

About 300 villagers contributed voluntary labour for the formation of a new road to link Vadakadu Village with Koilur in Muthupettai Block, Tanjore District.

The Unified National Calendar

The unified National Calendar, based on the Saka Era, came into force from March 22, 1957. The Gregorian calendar will, however, continue to be used as hitherto, in conjunction with the new calendar, for official purposes.

In the new calendar Chaitra would be the first month and the normal year would consist of 365 days, with 366 days for every leap year.

The Saka Era has been adopted for the new calendar as it was found to be widely used all over India. Indian astronomers have been known to be using it in their calculations since the time of the celebrated astronomer. Varahmihira. The Indian almanac-makers, even now, use the Saka Era for calculations and then convert the calculations to their own system.

The lengths of all the 12 months have been fixed and the new year will always commence from the day following the vernal equinox. Thus, the days of the new calendar would have a permanent correspondence with the days of the present Gregorian calendar.

A Committee was appointed in November 1952 to examine the existing calendars which have been followed in the country and submit proposals for and accurate and uniform calendar for the whole of India. The Committee submitted its report in 1955 and the Union Government decided to adopt a unified National Calendar.

The Committee found that not less than 30 different calendars, differing in the era-beginning, the initial date of the year and, to some extent in the methods of calculations were prevalent in different States of the Country.

The Indian calendar-makers had taken the length of the year to be 365·25876 days while the correct length of the tropical year is 365·2422 days. This difference is partly due to errors of observations and partly to the failure to recognise the precession of equinoxes.

In addition to revolution round the the sun and rotation round its own axis, the earth has another motion, viz., a slow conical motion of its axis round the pole of the ecliptic which causes the equinoxes to move backward. This phenomenon has been termed as precession of equinoxes.

This errror has been accumulating for nearly 1,400 years with the result that the solar year, instead of starting on the day following vernal equinox, i.e., March 21, starts nearly 23 to 24 days later. There is thus a clear difference of 23 days in the reckoning of seasons. The dates of festivals have consequently shifted by 23 days from the season in which they were observed about 1,400 years ago. The Calendar Reform Committee considered it expedient to maintain this as a constant different and stop its further increase.

There will be no deviation from the prevailing custom in the observance of various religious festivals. For religious purposes the new calendar will begin its lunar months from the day of the new moon and the month will be named after the Saur-masa in which the new moon falls.

(*Continued from page* 14)

The Intensive Khadi scheme was in force in 29 National Extension Service Blocks during the year 1955–56. Under this scheme, charkas were supplied to spinners at concessional rates 12·5 lakhs of lb. of cotton were distributed in the various centres. 135 lakhs of yarn in hanks were purchased from spinners and 90·7 lakhs of yarn in hanks were issued to the weavers. The Comprehensive Khadi scheme was in force in the Community Projects and Community Development areas. Under this scheme 1,000 charkas per Block per year were distributed at subsidised rates. During the official year 1955–56, the total quantity of cloth produced in the Intensive Khadi centres was 1,648,242 yards of khadi worth Rs. 35,52,979 of which a quantity of 611,759 yards of khadi was consumed by the public. 946,419 yards of khadi was sold outside the centres including sales to Government Departments, Local Bodies, etc. The total value of khadi goods sold came to Rs. 38,02,880 during the year 1955–56.

Rural Housing.

5,569 houses were constructed and 800 houses renovated. Loans for the construction of houses under the rural housing scheme were granted on a large scale in development areas. In Lower Bhavani, loans to an extent of Rs. 2·11 lakhs had been granted up to 30th September 1956. Construction of Harijan colonies was in progress in 20 villages in the Lower Bhavani Project area.

Units of People's Organisation and People's contribution.

687 Youth Clubs, 290 Farmer's Unions, 226 Mahila Samitis, 1,691 Panchayats and 941 Vikash Mandals and Village Councils had been organised up to the period 31st December 1956.

People's contribution to the several development programmes amounted to Rs. 102 lakhs up to the end of December 1956.

Electricity.

In addition to the achievements outlined above, that resulted out of Block endeavour the Highways, Irrigation, Public Works Department and Electricity and other departments of Government have been carrying on their normal departmental activities like maintenance of roads, black top surfacing, metalling construction of bridges, anicuts, canals, etc., in the development areas. Particular mention may be made of the activities of the Electricity department in these areas. 370 schemes at an estimated cost of Rs. 146 lakhs were completed, 241 schemes estimated to cost 277 lakhs of Rupees are in progress and a sum of Rs. 161 lakhs of Rupees have been spent up to 31st March 1956 on the various schemes. 8,343 domestic, 3,458 agricultural, 1,907 street lights, and 148 industrial connections were given in the Community Development areas of Madras State.

Sculpture Training Centre At Mahabalipuram

Revival Of The Ancient Art Of The Tamils

Sculpture has always occupied a place of pride in the arts and crafts of South India. Mahabalipuram, Tharamangalam, Krishnapuram, Avudayarkoil and Ellora not to speak of the innumerable other rock cut temples all over South India are standing monuments of the skill and ingenuity of the South Indian Sculptor. Patronised by Kings, encouraged by the enlightened aristocracy and inspired by faith in a living religion, these craftsmen have erected wonders that have captured the attention of an admiring world from ancient times down to the present day. The craft however received a serious set-back in recent years and except for a few here and there carrying on the tradition, the vast majority have deteriorated into ordinary stone cutters and dressers. In the interest of preserving this ancient craft and providing trained workers, needed for renovation of temples and for other works of art, it was proposed to set up a training school for sculpture in this State.

Mahabalipuram has been selected for locating the intsitution, as this place will provide for the right atmosphere and background for the craft. It is understood that there existed one such school at Mahabalipuram during the days of Pallava Kings.

It is proposed to train at this centre 20 candidates selected from families traditionally engaged in sculpture, paying them a stipend of Rs. 40 each per mensem. An experienced sculptor by name Vaidyanatha Sthapathi has been posted as Superintendent of the

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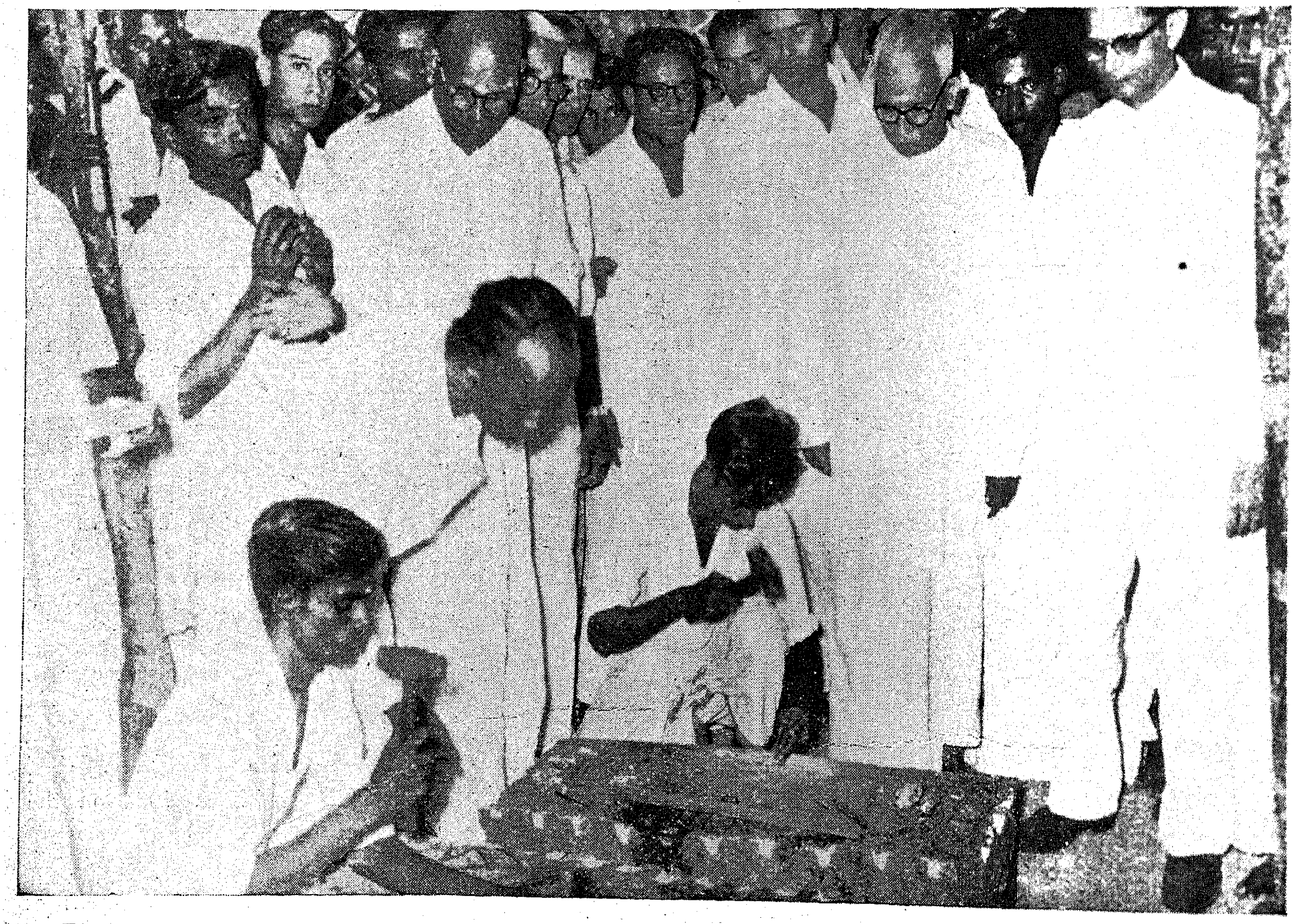

The Sculpture Training Centre at Mahabalipuram was inaugurated on 11th March 1957 by Sri M. Bhakthavatsalam, Minister for Agriculture and Industries. Sri T. K. Palaniappan, I.A.S., Director of Industries was also present on the occassion.

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Democracy's Second Test

The General Elections in 167 constituencies of which 38 were plural were held on 1, 4, 6, 8 and 11th March 1957. The Government declared holidays on the polling dates and the management of factories and industrial establishments were requested to give facilities to workmen to exercise their franchise on the polling days in their respective localities.

About fifty per cent of the 17·6 million elegible voters went to the polls in the General Elections to send 202 members to the State Assembly and 40 members to the Lok Sabha. Of the 205 members, the prescribed strength of the State Assembly, three were returned unopposed. One member was also elected unopposed to the Lok Sabha.

Madras State which is litte over 50,000 square miles in area with a population of 30 million had the unique honour of having a dozen women legislators in the Assembly. Never in the annals of the Madras Legislative Assembly, have so many women been elected. It is also an interesting fact that women voters (8,863,427) in Madras State outnumbered men voters (8,688,556) by nearly two lakhs.

The village folk exhibited great enthusiasm in excersing their choice. Festive scenes were witnessed in many a village on the polling day. The

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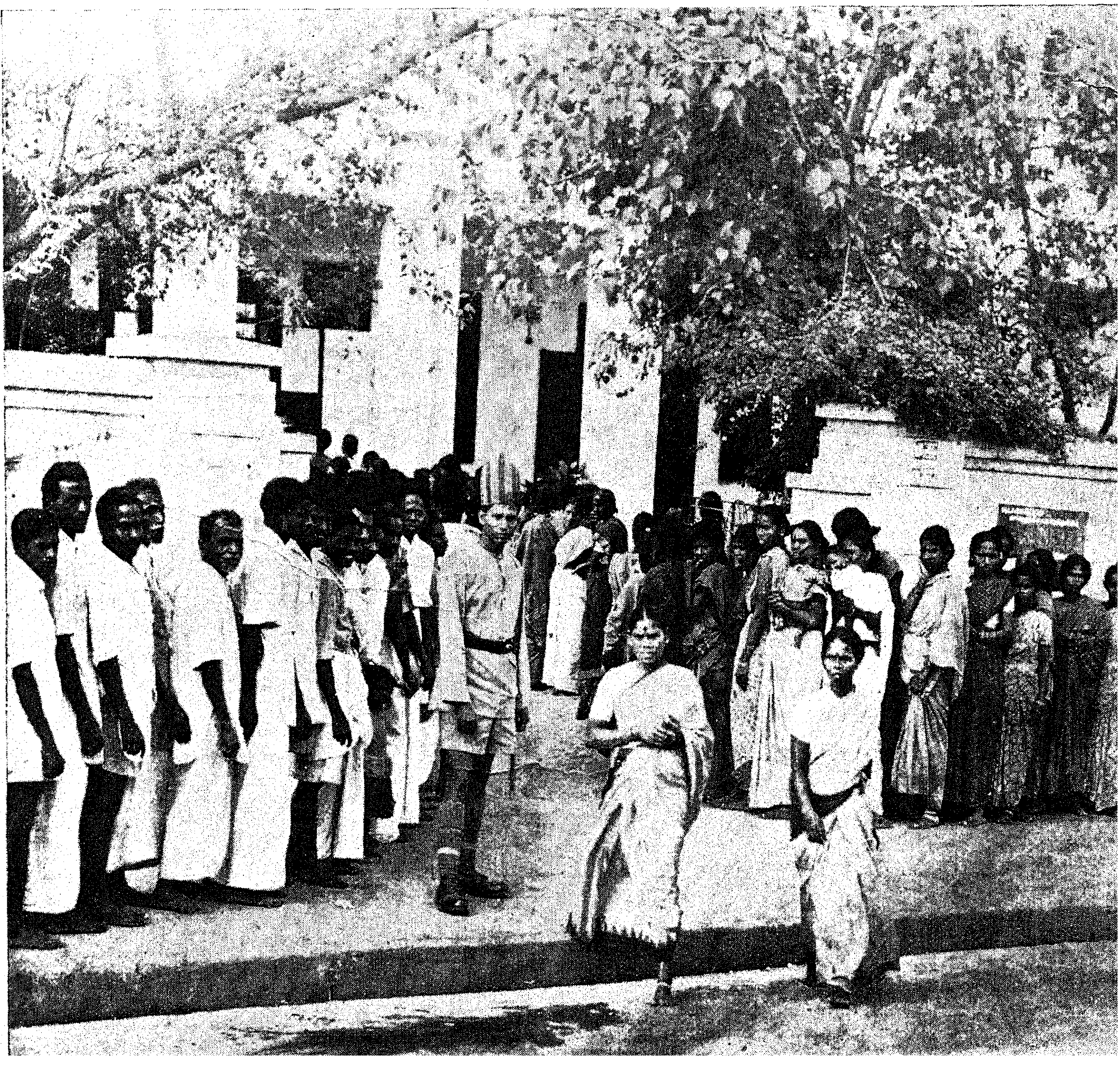
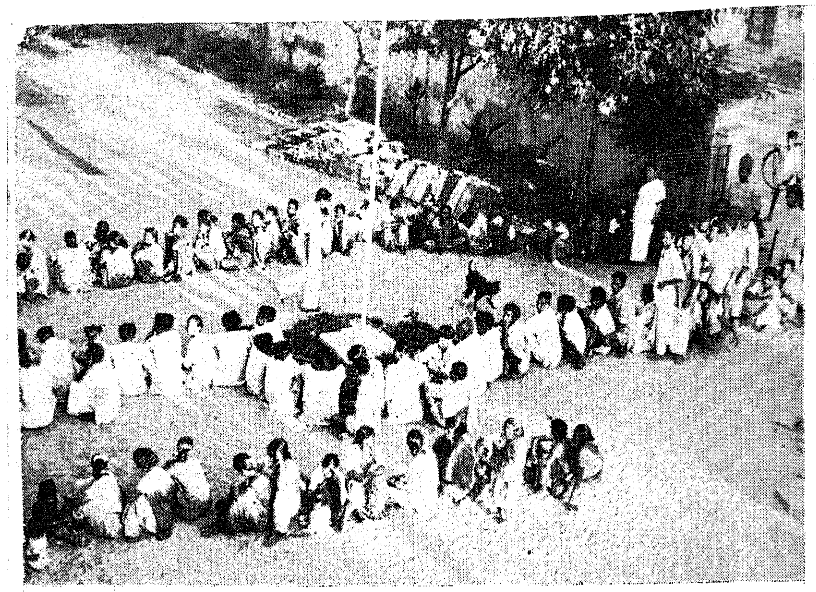
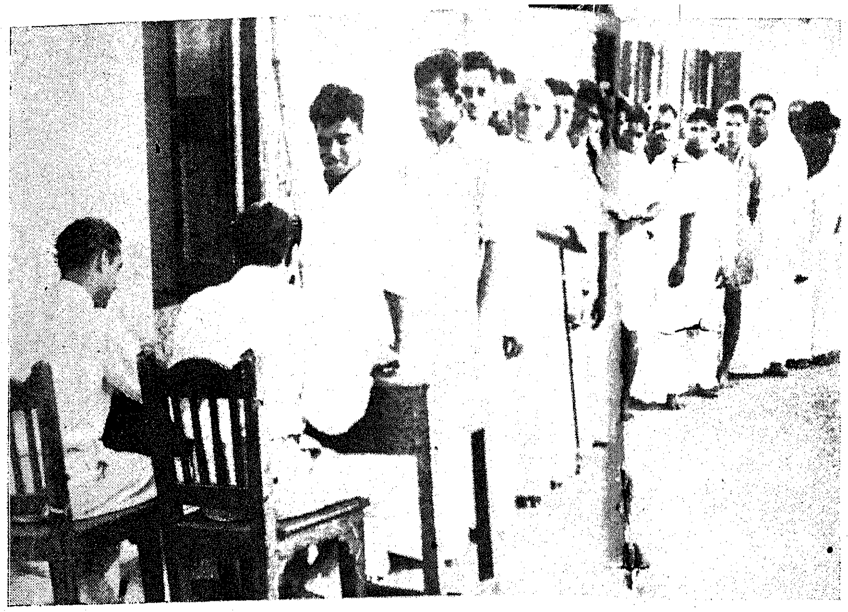
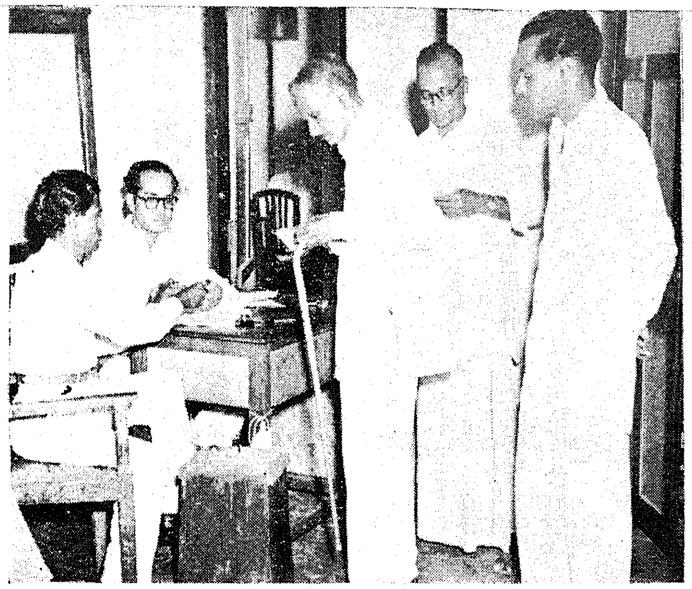
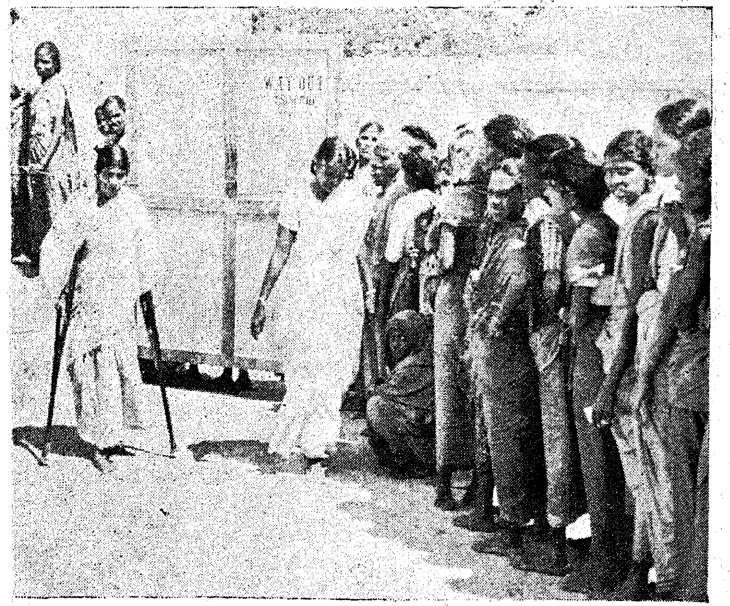


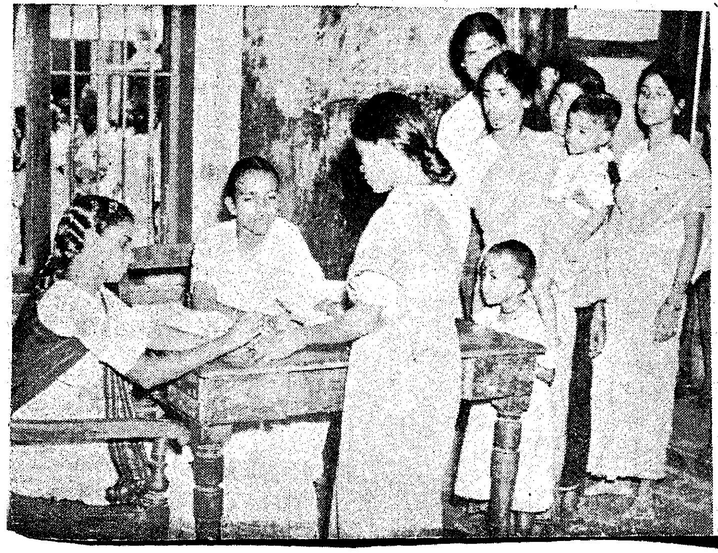




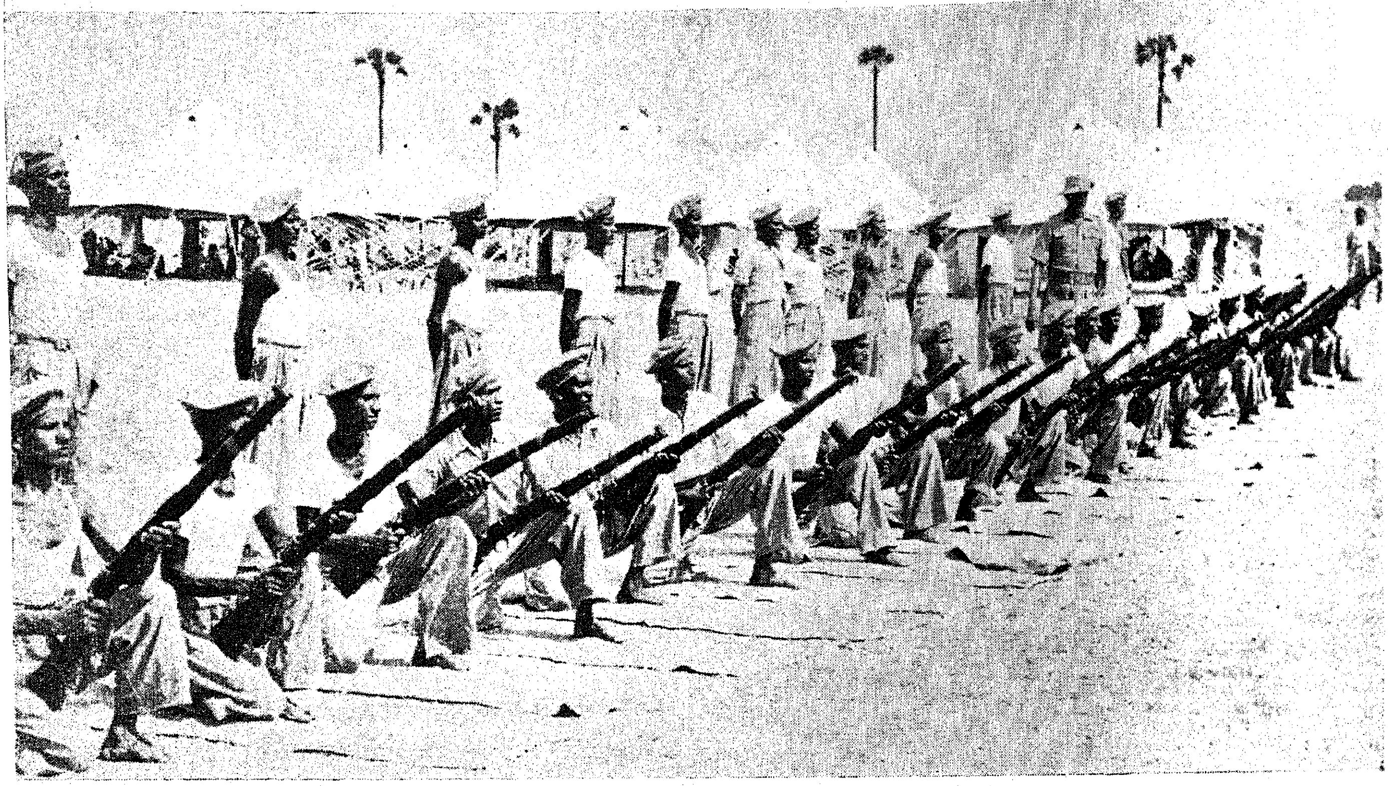
SPEAKING OF PICTURSE . . . .

The voters settled in long queues long before the commencement of the polling to exercise their franchise. Long queues were noticed in almost every booth and the interest evinced by the blind, dumb and the mute was a sight.

The counting of votes was a big job: The officials did it quickly and efficiently. In Madras City thousands thronged at the place of counting and listened eagerly to the periodical announcements of the results.







Lok Sahayak Sena Catches Popular Imagination

Dhamarapakkam Camp A Great Success

The Lok Sahayak Sena was started two years ago with the aim of getting people interested in national service and inculcate in them a sense of discipline and self-reliance.

Under this scheme, 200 camps are held throughout the country imparting training to 500 men in each camp, bringing to a total of one lakh every year. Training in a LSS camp lasts 30 days and consists of 208 pericds which are subdivided for various subjects. Fifty-five pericds are set apart for drill without arms, 65 for rifle training, 6 for Hygiene and sanitation, 10 for first-aid, 16 for Field Engineering and 26 for educational training. Literate trainees are given a broad picture of the Second Five-Year Plan, Community Development Projects, Civil Administration and such like subjects. Illiterate trainees are given rudimentary education by their literate colleagues.

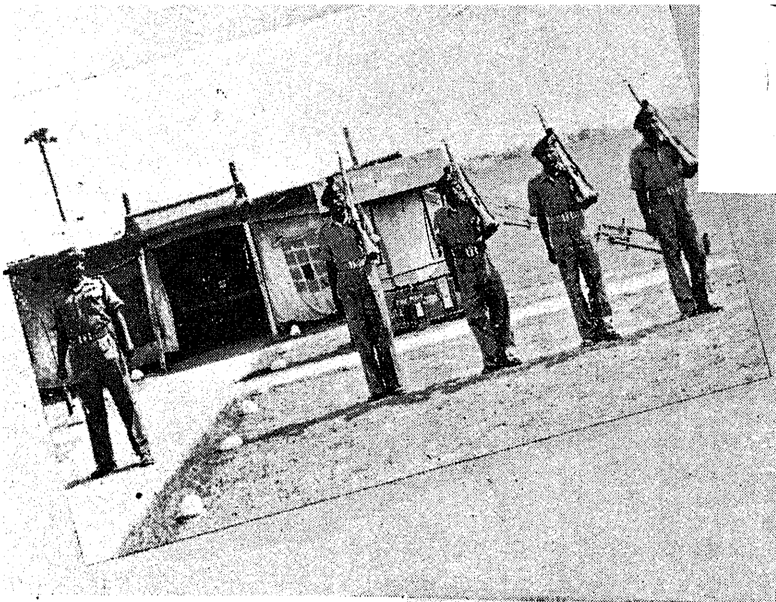
During training, the camp is divided into three companies, each commanded by a Junior Commissioned Officer. Four platoons of 40 men each make up a company. The camp life coupled with the progressive training imparted during the month adds to the physical fitness of the trainee, who returns home with a better sense of discipline which goes to make up for good citizenship.

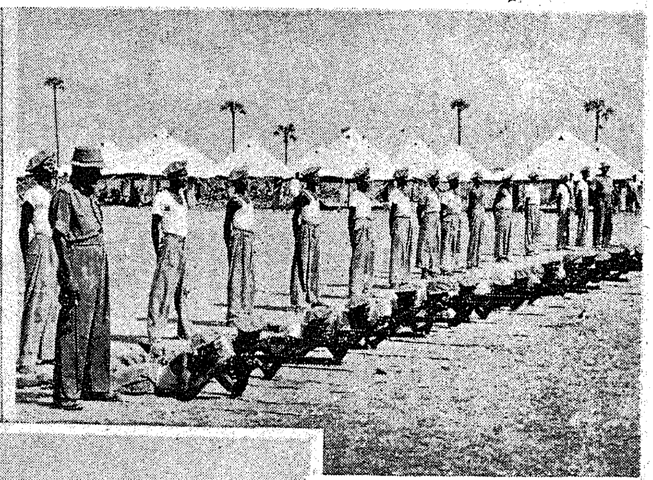
Eligible volunteers in Lok Sahayak Sena Camps are recruited and enrolled by the Army Recruiting Organization in consultation with civil authorities. Recruitment starts a few days before the commencement of a camp, and the response so far has been excellent.

To man the camps, about 34 training teams, each commanded by a captain and with a permanent staff recruited from among ex-servicemen has been set up. After initial training, the teams have been allotted to the three commands, corresponding to the number of camps to be held in each.

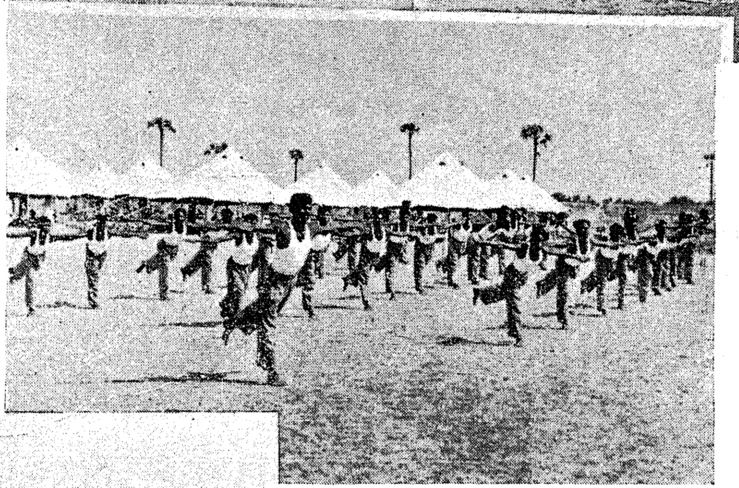
In addition, an extra team has been set up in each command to impart refresher training to the other LSS training teams and also to keep them in full strength. This team is commanded by a Major assisted by a Captain.

The Lok Sahayak Sena Camp at Dhamarapakkam





The security of a particular area largely depends on how it is protected from enemy infiltration. So 'Guard Mounting' is an important job taught in the Camp.

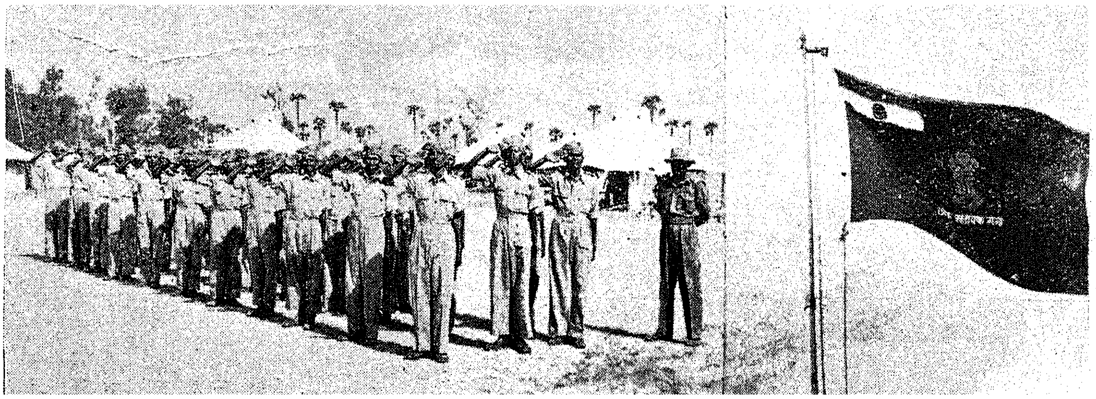


Holding the rifle in correct position is a pre-requisite if one should not misfire.

The trainees at the Camp are made to keep fit by physical exercises. A sound health is necessary to participate in any Nation-building activity.

Sri M. Bhakthavatsalam, Minister for Agriculture, reviewing the parade on the closing day of the Camp. Captain Bhaskaran is with the Minister.

The Sainiks saluting the 'Lok Sahayak Sena Flag'.



The aim and functions of Lok Sahayak Sena is made clear in a message given by Dr. Kailash Nath Katju, Defence Minister, recently. The message says :

" The Lok Sahayak Sena has made a great appeal to the people of India, young and old, rich and poor, rural and urban, indeed to people of all classes and communities living through the length and breadth of India. It has caught popular imagination, and though it was started less than two years ago, it has become a household word throughout the country. The target of training 100,000 people a year has been achieved. Large numbers apply and sometimes many have to be refused. The aim of this Sena is well known. It is not intended to be a part of the Military Forces of the Republic of India, though I feel sure that, if a call is made during any period of national emergency, every single Sainik of the Lok Sahayak Sena will flock to the colours and offer his services to the national cause. The principal aim of the Sena is to make the Sainik a disciplined citizen of India, and to impart to him elementary knowledge not only of arms but also of the duties of citizenship. Every Sainik by his residence in camp for a month under military discipline benefits greatly in every way, and his outlook is broadened and his mental horizon widened. He makes friends in camp and I trust that this friendship lasts for many years. The Lok Sahayak Sena is a voluntary organization, but it is a matter for joy that all Sainiks at the end of their training of their own free will, sign a pledge to offer their services whenever called upon to do so in times of natural calamities and other emergencies. I do hope that every Sainik acquires the habit of leadership by his residen in the camp and becomes an instrume for rendering efficient help and c operation for the betterment of h village and his township."

Dhamarapakkam Camp

One of the two hundred Lok Sahayak Sena Camps was conducted at Dhamarapakkam in Chingleput district last month. The people of the surrounding villages especially the youths evinced great interest and rushed for admission in the camp. The village elders co-operated with the authorities in making the camp a grand success. The camp had the prescribed maximum of 500 trainees. Captain Bhaskaran was the officer-in-charge of the camp.

Sri M. Bhaktavatsalam, Minister for Agriculture presided over the valedictory function and took the salute during the March past of the Corps.

The Minister addressing the trainees congratulated them on their smart turnout and their picking up disciplined military habits in such a short time. He drew a contrast between the training given under alien rule and the people's Government and said that the volunteers were not only fitted for defending the freedom of the country at the times of emergency but for several activities under the National Extension and Community Development Schemes. He cited many instances to show how army had done marvellous work during the flood havoc and cyclone disaster in the Southern districts.

The Minister said that the trainees throughout the State should assemble atleast once a year and continue these activities. He congratulated captain Bhaskaran for the able training he had imparted and complemented the villages who had gathered in large number for the enthusiasm they had evinced and the co-operation they had extended to the authorities.

Sri A. Venkatesan, Collector of Chingleput district distributed the prizes to the trainees who came out successful in the sports.

Decimal Coinage Comes Into Circulation

Naya Paisa Replaces Anna System

By PITAMBAR PANT.

From the first day of this month of the year [April 1, 1957] a new set of coins comes into circulation in our country, which introduces the decimal system of coinage without, in any way, altering the value of the Rupee. This system, at the same time, puts an end to certain anomalies in present practice.

The " Rupee " is at present divided into 16 annas, each anna into 4 paise, and each paisa into 3 pies. 192 pies make a Rupee. But the value represented by the pie at prevailing prices is too small to require its use even in small transactions of our daily life. The pies have not, in fact, been minted since 1942 and have virtually disappeared from circulation.

Few of the younger people of today are likely to have even seen a pie. The smallest coin practically in use is, therefore, a paisa, 64 of which make a rupee. It is the paisa which is engaged in the humble tumble of life. Whether in remote villages, busy lanes of cities, in buses, and trams, it is the paisa which comes to the aid of ordinary folk. The pie keeps off all this dust and din and if at all it plays a role, it is in the comfortable company of the rate fixer, accountant and the like.

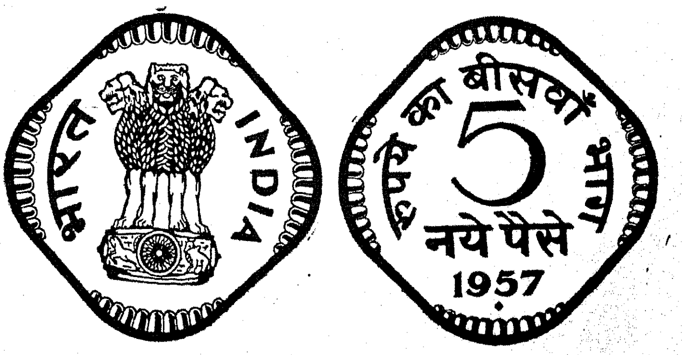
But so influential has been the pie that notwithstanding the verdict of the people and the time against it, it has clung on to its position in the accounts which continue to be represented in the form of rupees, annas and pies. Poor paisa has no official status, no rights and recognition. Like a famous man's son, it has no introduction of its own except in terms of its famed parent, officially known as quarter-anna or 3 pies.

Such things did happen in our social life in olden days and even now, would you not agree ? Men and women—like the pie—sometimes get into important places, more by virtue of their lineage, social ties and influential contacts than their merit and usefulness. The humble folk, like the paisa, who toil and sweat do not get enough recognition and others who avoid soiling their hands, manage to manipulate things to their advantage These are evils and are contrary to the democratic values we have accepted. We have to put an end to them and step by step we are doing so.

Dignity of Paisa.

The new system of coinage restores the dignity of the Paisa which comes to us with lighter burden and brighter look as Naya Paisa. The coinage reform is symbolic in other ways. It incorporates many of the well-known slogans of progressive democracy. " Land to the tiller " has its counterpart in the primacy given to the Naya Paisa, the smallest coin, the humble one which takes the most knocking ; it receives its due place in the accounts alongside the rupee. ' No Intermediaries '.

The Anna, the Zamindar in the realm of accounts, ceases to be in the new dispensation and the Naya paisa is put in direct and simple relationship with the main coin of account, the Rupee, 100 naya paise being equal in value to one rupee. Three years have been provided for the drones, the pies, and the intermediaries, the annas, to wind up their affairs. But true to our tradition, they receive the fullest compensation possible in terms of naye paise.



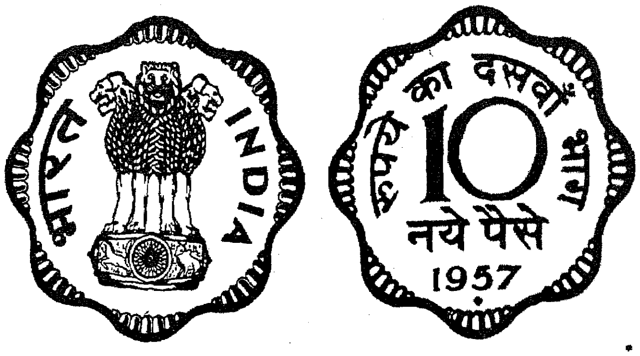
The scale of compensation, as approved by our Parliament, has been put out by the Government in the form of a Ready Reckoner and widely circulated among the public. Every now and then the newspapers carry these in their pages. The Ready Reckoners provide for all contingencies, but as far as common people are concerned all that they have to keep in mind is that four annas will be exchanged for 25 naye paise, which will represent an exact equivalent ; but for amounts less than four annas although, there may not be exact equivalence in whole naye paise, a simple formula equating two old paise to three naye paise will be satisfactory for practically all purposes.

With little effort anyone should satisfy himself that the error involved by assuming two old paise equal to three naye paise or one anna equal to six naye paise will be trivial indeed for smaller transactions. From what I gather from my talks with some small shopkeepers, they may find it much simpler in their daily transactions to treat one anna equal to six naye paise for amounts smaller in value than four annas. If the shopkeepers and customers both agree to it, there would be little argument about conversion.

As daily purchase or sale are two-way transactions and as losses at some points of the scale of conversion are offset by gains at other points of the scale, it can be safely assumed that, on an average, no one would stand to lose or gain merely because of the rate of conversion prescribed. In any case these are small inconveniences of transition and it is easy to exaggerate their importance.

Enhanced Service.

The thing to remember is that the naya paisa is smaller in value, by one third, than the current paisa and it is thus basically more serviceable and of benefit, especially to the poor people. This can be illustrated by an example. The present situation where the paisa stands for three pies and the pie as a coin does not exist, is like that of a hospital which claims to have one nurse for every patient but actually provides one for three of them. Now, one nurse for each patient may be quite unnecessary ; the patients may not require such close attention and most of the time the nurse may be kept idle. Even worse, too many of them may produce overcrowding, create unnecessary administrative difficulties and cause needless expenditure.



On the other hand, we may find from experience that one nurse for three patients is not enough to give proper attention to the requirements of patients and that the proper charge would be one nurse for every two patients. This would lighten the burden on the nurse, make her more efficient and effective and ensure closer attention being given to the patient. Obviously, there is everything to be gained in this reorganization. The reform of our coinage is something analogous. By introducing the new nurse, naya paisa, with two-thirds of the work-load of the old, the standard of service to the patient, the common man, is greatly enhanced.

It is easy to see how this happens. The market price of a packet of 10 cigarettes of a certain well-known brand is 11 annas. If one cigarette alone is desired you are required to pay five paise. The price should have been 44 paise divided by 10, that is 4·4 paise or 13·2 pies but as the smallest coin actually available is a paisa, the shopkeeper can fix the price either as four paise or five paise. At the rate of four paise a cigarette, he would realise only 10 annas for a packet of 10 cigarettes which amount may be even less than his purchase prices. With the best will in the world, therefore, he has no choice but to fix the price at the nearest rounded up figure of five paise. This is equivalent to 15 pies whereas the reasonable price, as we have seen, would be 13 pies. The result is that the customer is obliged to pay almost two pies more than the correct price in the transaction without any one to blame. This is in the present situation, and although we may have become used to it, we should not forget that we are all the time losing whole pies, not merely fractions of them, in small transations.

(*Continued on page* 34)

DAIRY FARMING

By Dr. D. PATTABIRAMAN, G.M.V.C., A.I.D.I., Director of Animal Husbandary, Madras.

Dairy Farming is considered as a secondary occupation by our farmers and not as a main occupation as is found in advanced countries such as New Zealand, Holland, Denmark, etc. In those countries many farmers with land carry out farming operations and feed the entire produce of the land to their cows to convert into milk. Their main occupation is "Dairy Farming" in the correct sense of the word. In India such instances are very few. In the first place, the average holding owned by a farmer is very small. He keeps only one or two milch cattle and uses the produce of the land for feeding his cattle to a limited extent. His main occupation is to produce cash crops. Even in our Dairying tracts, it is a common sight to see large tracts under cotton or tobacco cultivation and the milch cattle go without adequate fodder. There is the other extreme too, particularly in cities. There, the commercial cow-keepers maintain milking herds without an inch of land and depend on purchased fodder and cattle feed. Because of this, they cannot rear their replacements and calves have no place in their general management.

The total output of milk in India however is exceptionally large. The gross output of milk is estimated at 6,000 lakh maunds which is valued at Rs. 700 crores of rupees per year. Compared with other countries, India stands second in volume of milk production, her output being exceeded only by the U.S.A. If such enormous quantity of milk is produced in this country, it is because of the size of the country and the very large number of cattle maintained and not due to any intensified system of Dairy Farming as is understood in the western countries.

Climatic condition affecting milk production.

Before I proceed with the subject, however, I must give you an idea about the climate of this country as it has a direct bearing on production of milk and its handling. It is generally extreme as regards heat, cold and rains. During the summer season when the temperature generally goes high, milk production is at its lowest level and may drop as low as 50 per cent of the winter production. The variation in rainfall is also marked from region to region, some places like the West Coast, West Bengal, Assam, etc., getting as much as 200 inches with the other extreme down to about 5 inches as in the rigid regions of East Punjab, Rajasthan, Saurashtra and Kutch. Along with these extreme fluctuations the uncertainty of rainfall is also equally great. This phenomena has a marked bearing on the quality of cattle and their performance. A year of drought occurring even after a good spell of rainfall will undo what has been done in the favourable period by adversely affecting the condition of the cattle. Nearly 4,000 miles of coast line again makes for a humid climate all along the sea coast.

The above wide variations have produced a set of conditions which create uncertainty with regard to output of milk as well as of finding a lucrative market for it. Since bacteria somehow find their way into milk and milk is an dieal medium for them and since warmth and humidity help their rapid multiplication, it is necessary to stress that handling of milk under tropical conditions is much more difficult than in countries with a cooler and therefore a more favourable climate. It is worth mentioning in this connection the experience of some of the dairies in England loosing several thousands of gallons of milk due to souring when the atmospheric temperature rises near about 85° F and above. In most parts of this country we have at least 300 days in a year when the day temperature is well above 85° F. But no such spoilage of the kind mentioned above at such a temperature has been noticed in this country. It is difficult to say whether milk produced in the tropics is more immune to bacterial action or has certain germicidal properties that it can withstand higher atmospheric temperature for a longer time without spoilage.

Production of milk.

The total gross production of milk in Indian Union is 6,000-lakh maunds and the net annual production of hand drawn milk after deducting the quantity of milk consumed by calves is 4,000-lakh maunds. 54·4 per cent of this total production comes from buffaloes, 42·8 per cent from cows and 2·8 per cent from goats. For producing this amount of milk some 67 million milch cattle are being maintained comprising 46 million cows, 21 million buffaloes and 8 million goats. Though such large number of milch cattle are maintained for milk production, their average lactation yield is very poor. It has been estimated that the average lactation yield of a cow is 415 lb. per annum and that of a buffaloe is 1,100 lb. per annum. This low milk yielding capacity of the animals is one of the main reasons why dairying has not been taken as a profitable industry in this country. The factors responsible for the low milk yield of cows in this country have been studied by many investigators who have all attributed the cause to poor feeding, breeding and management. According to one authority, accepted standards of animal nutrition would place the bulk of India's dairy cattle in the category of acute malnutrition. It may be mentioned here that a fair proportion of the village cattle if fed better can give 50 per cent more milk yield that at present. The fodder and concentrate supplies are both inadequate; the available quantities being only 60 per cent and 40 per cent respectively of the actual requirements.

Except for a small number of well defined breeds, the vast majority of Indian cattle are of non descript type

with poor milking quality in them. There are nearly 49 pure cattle breeds in this country. They can be classified under three main headings such as milch, draught and dual purpose, the latter possessing the qualities of milk production as well as work. Here I shall mention only the names of the milch breeds of cattle of all-India importance.

Cows.

1. *Sahiwal.*—A typical milch breed perhaps the only dairy breed of its kind in India. Its home tract is northwestern parts of Punjab. The highest record attained is 12,000 lb. of milk in 300 days. Its one main defect is lack of adaptability to changed conditions which brings about a marked drop in its performance when removed from home tract. This has prevented its spreading all over the country as a dairy animal.

2. *Red Sindhi.*—The home tract is Sindh in Pakistan. It has also great ability to adopt itself to changed conditions. This has enabled it to spread throughout the country as a milch animal. Its best performance is 11,400 lb. in a lactation recorded at Hosur Cattle Farm in Salem District.

3. *Tharparkar.*—Original home is the Thar desert of Sindh. It has also great ability to adopt itself to all changed conditions. But it could not spread itself wide in this country because it could not be obtained in the same abundance as the Red Sindhi. The highest performance is 11,000 lb. in 300 days.

4. *Gir.*—It is one of the oldest of the indigenous breeds of India with its home North Sourashtra. It is classified as a dairy breed but it has the ability of producing good quality work animals as well. Its average lactation yield is 3,600 lb. and its record performance is 8,000 lb. in 300 days.

5. *Hariana.*—Next to Sahiwal it is the next important cattle breed used for milk production in the Punjab. Its home is the arid area of the Punjab and it forms the main source of supply of work animals as well for that region. As such it comes under the classification of dual purpose breed. Its lactation performance is 3,500 lb. and the recorded best performance is 6,000 lb. in 300 days.

6. *Kankrej.*—Essentially a dual purpose breed, it plays an important part in milk production in the arid regions of Gujarat and Kutch. This breed used to be exported in large numbers to South America for cross breeding with local breeds for beef production. Besides producing good quality beef, this breed also contributed a high degree of immunity against the disease known as "Tick fever" which was causing heavy mortality among cattle in America. Its lactation performance averages 3,000 lb. the best recorded yield being 5,500 lb. in 300 days.

7. *Ongole.*—A dual purpose breed found in Guntur and Nellore districts of Andhra State. It contributes a great deal towards milk production in Madras City. Just like Kankrej breed, this breed was also in great demand in South America especially in Brazil for the production of beef cattle. Its average lactation yield is 2,800 lb. the best recorded yield being 6,000 lb.

Buffaloes.

1. *Murrah.*—It is the one breed of buffalo which is in great demand throughout India for milk production. Its home is the Punjab. As its name implies, it has horns in spirals. Its average lactation is 4,500 lb. and the highest lactation recorded being 10,000 lb. in 300 days.

2. *Nili or Ravi.*—A sister breed of Murrah confined to the regions between the Punjab rivers. It is not so adaptable to changed conditions when removed from the home tract. Its average lactation yield is 4,500 lb. and the best recorded performance is 10,200 lb. in 300 days.

3. *Meshana.*—Its home tract is North Gujarat. It is a very hardy breed and perhaps the most economical milk producer of all the breeds of buffaloes. Its average lactation yield is 3,500 lb. the best recorded being 6,000 lb. in 300 days.

4. *Surti.*—A sister breed of the above, it comes from the southern part of Gujarat. It has put its home tract in the map of India through its output of table butter which meets the need of practically the whole of India, and also for playing an important part for the supply of milk to Bombay City from Anand. The average lactation is 3,500 lb. the best recorded performance being 5,500 lb. in 300 days.

5. *Jaffarbadi.*—Its home tract is the Gir forest of Sourashtra. Among the buffalo breeds, it is the largest in size, some animal touching over 3,000 lb. in weight. Its main defect is that it is an irregular breeder. Its milk has a very high percentage of fat (the highest recorded being 13 per cent) and hence it has earned for its homeland the reputation of producing the best ghee (Kathiwar or Porbandar). Its average lactation yield is 3,500 lb. the best recorded being 5,000 lb. in 300 days.

6. *Nagpuri.*—A breed of buffaloes comparatively not so important as those dealt with before but important from the point of view of the climatic and topographical conditions prevailing in Peninsular India. In fact it is the only well established buffalo breed in the south which can stand up to hard conditions and scanty fodder and yet proving an economic milk producer. The lactation averages 3,000 lb. with the best performance touching 4,500 lb. in 300 days.

Seasonal variations of milk production.

Throughout the world, during certain months of the year, there are more calvings in milch cattle than in other months. The lactation lasts from eight to ten months and there is a fairly uniform yield curve which gets to its peak in about four to five weeks after calving, remains steady for eight to ten weeks and then gradually tapers down and disappears when the animal is dry. These factors account for flush season and the lean season in milk production. Climate which reflects on the availability of fodder has a bearing on this Cows and buffaloes react differently to climate. Cows generally calve in large numbers in comparatively dry season during March and April and again in October and November. Due to this, the monthly variation in milk is less pronounced in a herd consisting only of cows. In the case of buffaloes it is quite different; they have only one peak season of calving during the wet months of mid-August to mid-October which results in a marked increase in milk production from October onwards to January each year. Thereafter it begins to fall off and is at its lowest level during the warm and dry months of May and June. Wherever the buffaloe is the main producer of milk (and it is so in most parts) there are marked seasonal variations, viz.,

Per Capita Consumption of Milk Very Low Now

decrease in the availability of milk during the summer months and the reverse during the winter.

Utilization of liquid milk.

Over 85 per cent of the human population and roughly 95 per cent of the milch cattle in this country are in our rural areas. Only the remaining numbers are in the urban areas. In Great Britian, for example, where 80 per cent of the population is urban, nearly 90 per cent of the home produced milk and its products are consumed by the urban population. In the U.S.A. where the urban population is roughly 60 per cent of the total, nearly 75 per cent of the home produced milk and its products are sold for urban consumption. India is in a different position. While the ratio of urban to rural population in Great Britain is 1 : 4, the ratio in India is 9 : 1. The urban population therefore provides only a limited market for milk.

Per capita consumption of milk.

The average daily per capita consumption of milk in the Indian Union has been estimated at only about 5¼ oz. This is much less than in some of the western countries. The consumption of milk in India varies from tract to tract according to production of milk and density of human population.

In view of the special importance of milk as the sole source of "First-class" protein the quantity needed in the average Indian dietary can best be calculated on a basis of protein requirements. According to European standards an average man would require an intake of 100 grams of protein per day. Of this roughly one third should be first-class protein. According to Indian standards the requirements is somewhat lower, namely, 65 grams of total protein of which about one quarter should be of animal origin. Using these two standards as a basis for calculation of the milk requirement, the following figures are obtained.

	European standard.	*Indian standard.*
Daily requirements of first-class protein per head.	37 gms.	16 gms.
Amount of milk needed to supply this quantity of protein	1,000 gms.	430 gms.
or		
a daily intake of ..	35 oz.	15 oz.

It is seen from the above that the standard European requirement coincides closely with the actual consumption in the self-supporting countries while in India the actual consumption is far lower than the standard requirements.

Out of the total milk produced, a little over 36 per cent is consumed in liquid form, a little over 43 per cent is converted into ghee, about 9 per cent into sour milk and the remaining 11 per cent accounts for products such as ice cream, khoa, etc. Cow milk is preferred for drinking particularly in Madras and Bengal and buffalo milk is utilized for manufacture of products.

Manufacture of ghee.

Of the milk products ghee is the most important one, as it consumes 43 per cent of the milk produced in the country and forms the only form in which animal fat is accepted by the overwhelming vegetarian population of India. Ghee keeps good for long periods even under tropical conditions of storage and ordinary packing. This accounts for its extensive manufacture.

Buffalo milk being richer in fat than cow's or goat's milk, gives a larger outturn of ghee. The buffalo ghee is white in colour, is hard and has a well defined texture. Cow's ghee is yellowish in colour and has a softer texture. While some stress is laid upon the nutritive and digestive value of cow's milk for consumption in liquid form, the milk of buffaloes is always preferred both for giving an increased outturn and for obtaining a superior quality of product. In Madras State, Tiruppur is an important centre for the assembling of large quantities of ghee for exporting to other places, particularly Madras City.

Price of milk in relation to the average individual income.

It is surprising how in spite of ignorance about nutritional matters generally almost everyone knows that milk is an excellent food. If less of it is consumed it is only due to the fact that it is comparatively expensive and almost beyond the reach of many. For instance, if the wages of an Indian skilled or semi-skilled worker is taken as Rs. 3 per day on an average, he will have to work for one hour and 20 minutes (nearly 20 per cent of his daily work hours) to be able to purchase one seer of milk (2 lb.) at 8 annas per seer. In the U.S.A. taking the retail price of milk to be about 20 cents per quart (Re. 1 per seer) and the daily wage of a worker to be about 13 dollars (Rs. 65) he has to work only for 7½ minutes to purchase the same amount (less than 2 per cent of his daily working hours). In the United Kingdom the average wage may be taken at £ 8 per week or Rs. 15 per day. The retail price of milk is 1s. 2d. per quart (As. 10 per seer). A person has therefore to work for 20 minutes to earn one seer of milk. It is evident therefore that in this country due to the low income of the people many go without the addition of milk in their diet. There is therefore a great need to put on the market products like "Toned milk" and even skim milk so as to bring this valuable food within the reach of the masses and popularize them through propaganda on the right lines.

Collection.

In rural areas where the bulk of the cattle and human beings exist there is very little collection of milk in the sense understood by Dairymen. Only

Co-operative Effort: The Role of Madras

about a fifth of the entire production is needed for urban areas and only this quantity may be said to undergo a systen of somewhat organized collection. Here again various types of agencies undertake collection of milk. There are the producers who also collect milk from their neighbours and take it to the urban areas. Then there are professional collectors of milk who may carry milk to the urban areas.

Collection on a large scale presents difficulties because of the scattered production of milk in villages. For instance the average production of milk in the country is less than 2½ maunds (20 gallons) of milk per day per village. When it is considered that a major portion of it is converted into products or retained for domestic use, the marketable surplus available at a time (in two lots a day) is very small per village. It is therefore not possible to collect a reasonable quantity of milk in all the areas. Only in certain dairy tracts and also in the vicinity of cities that production is concentrated and collection becomes easier, although even there it can hardly compare with the output per square mile in some of the dairying countries abroad, where it is possible to collect fairly large quantities of milk daily.

Treatment and processing.

There is practically no consumption of raw milk as such in this country. Almost religiously all the consumers boil the milk before it is used. There is no doubt that this universal practice has arisen out of conditions of production, handling and the climate prevailing in this country.

Military Dairy Farms were the first to introduce pasteurization of milk. Some private dairy concerns also adopted it for the civilian markets at some of the cities. During the last few years certain State Governments have taken to pasteurization in connection with their respective city milk schemes. On the whole however a very small fraction of the entire milk consumed is pasteurized before distribution. A still smaller fraction is bottled and supplied to consumers.

Transportation and distribution.

It has been estimated that only about 10 per cent of the milk produced in this country undergoes transport ranging from 10 to 15 miles between villages and the adjoining urban areas. All types of transport incluing head-loads, bicycles, motor vehicles and rail are used for in the transport of milk. Raw milk generally reaches the place of consumption within about four hours of milking. It will not have much life in it left, unless it is immediately subjected to heat treatment, that is boiling.

The requirements of the household vary from 1 lb. to 4 lb. or so. The day-to-day demand also varies. Loose milk is therefore distributed out of a can or pot with the help of a measure into the vessel of the consumer. Being raw milk distribution has to be done twice a day, but usually the morning demand is more than the afternoon demand.

Quality.

Perhaps there is no other food product which can be adulterated so easily and without any cost at all. The responsibility of maintaining the purity of milk is primarily that of the producer, processor and distributor. This is generally the case in countries advanced in dairying. This outlook has also helped the consumer to appreciate the quality, pay a premium for it and encourage consumption of more milk and dairy products. Unfortunately in this country such a condition does not exist with most of our producers and consumers.

Beyond the responsibility of the producers, processors and other intermediaries, the onus of attending to matters relating to production and maintaining the quality of market milk is on public bodies such as the municipalities and others. There are enough rules and regulations and quality standard prescribed for the supply of pure milk and milk products. There are generally three legal standards, one for buffalo milk, one for cow's milk and the third for mixed milk under which fat and solids not fat are prescribed. The difficulty is that their application and enforcement leaves much to be desired and therefore frequently an honest dairyman has to face unhealthy competition without redress. It is however gratifying that, of late, public consciousness in this matter has been aroused and action being taken to get right matters on an all India basis.

Co-operative dairying.

At one time a situation existed in most parts of the country when the milk produced in rural areas could not find a lucrative market on the one hand and on the other there was a crying need for milk in the urban areas. Thus there was a wide gulf between the majority of the producers and the consumers. This gulf was to be bridged. India being a country of small holdings and milk production being a secondary occupation for the cultivator, it was realized that the development of the dairy industry of the country must begin from the doorstep of the average cultivator and through the improvement of his cow. Again as the resources of the average cultivator were very limited, very little could be achieved through his individual effort, especially in the dairy line which called for larger investments and involved larger risks than in his agricultural activities. Unless therefore a collective effort was resorted to, progress could not be made in the development of dairying. The best way of doing it was considered through co-operative effort. This brought into being the formation of co-operative milk supply societies in rural areas. The first successful effort

was made in this direction in Madras in the year 1928 when the Madras Co-operative Milk Supply Union was established. In general the working of the Co-operative is that a primary society of milk producers is formed in a village. Several such village societies arrange to collect their milk twice a day and deliver in suitable containers on the main route leading to an urban area or consuming centre. A motor lorry picks up the milk supplied at various centres on the main route and deliver it at the dairy. The milk is pasteurized in the dairy and delivered to the customers according to the requirements. The dairy is controlled by a union formed by the federation of the primary societies. The union generally maintains technical staff for the proper processing of milk.

The biggest and most prosperous union to-day is the Kaira Co-operative Milk Supply Union, Anand, Bombay State, which is playing an important part in the milk supply of Bombay City. The union collects the milk produced by 23,000 buffaloes in 80 villages covered by its 58 affiliated societies spread over a radius of 14 miles around Anand. After pasteurization by modern machinery about 90,000 lb. of milk is daily despatched in cans kept in special refrigerated wagons to Bombay which is 266 miles away. The next biggest is the Madras Milk Supply Union which now comprises of 164 feeder societies spread over a radius of 40 miles round Madras. It handles about 32,000 lb. of milk a day.

Dairy schemes included in the Second Five-Year Plan of Madras State.

Considering the importance of the co-operative movement, a number of schemes have been included in the Second Five-Year Plan to augment the milk production and consumption in this country. The following schemes have been included in the Second Five-Year Plan of Madras State to augment the milk production and consumption in this State :—

1 Establishment of pasteurization plants in 10 milk supply unions.

2 Establishment of five salvage farms for salvaging dry cattle.

3 Increasing the daily production of milk from 40,000 to 60,000 Madras measures during the Plan period.

4 Organization of 12 cattle breeding societies.

5 Hygenic handling of milk by the Madras Milk Supply Union by providing insulated vans for the transport of milk and construction of cattle sheds at feeder societies.

Special considerations relating to city milk supplies.

The supply of milk to large cities justifies special consideration by virtue of two acts ; first because the per capita consumption of milk is very low n the cities and second because certain special difficulties are involved in the provison of adequate supplies of milk in densely populated areas.

One feature which is characteristic of all the cities is the large cattle population which is housed within the municipal boundaries. This is undesirable on hygenic grounds alone. But there is a more fundamental objection to the housing of cattle in urban areas. The production of milk under such condition is very expensive. The cost of accomadation for cattle is high. The cost of feeding stuffs is also inevitably high since these have to be transported into the cities from rural areas. Again the depreciation on stock is very considerable. Usually newly calved animals are brought into the city for milk production and are disposed off when they go dry for low prices. Very often those dry animals find their way to slaughter-houses. Then there is a gradual depletion of cattle wealth and many valuable breeds are almost becoming extinct.

Broadly speaking there are two main solutions to the problem of milk supplies to the city. One is to replace the entire quantity of milk produced in city by milk imported from rural areas, as is the case in western countries. The second one is to colonize the city cattle in suitable areas outside the city where proper control over milk production could be exercised. For various reasons the first method is to be preferred over the second but sometimes conditions would not permit of this being adopted in all cities. A study of the situation revealed in connection with the All-India Dairy Development Plan that the establishment of cattle colonies would have to be adopted to a certain extent in most of the large cities in India along with the importation of milk from rural areas. This becomes necessary to ensure that in the event of any

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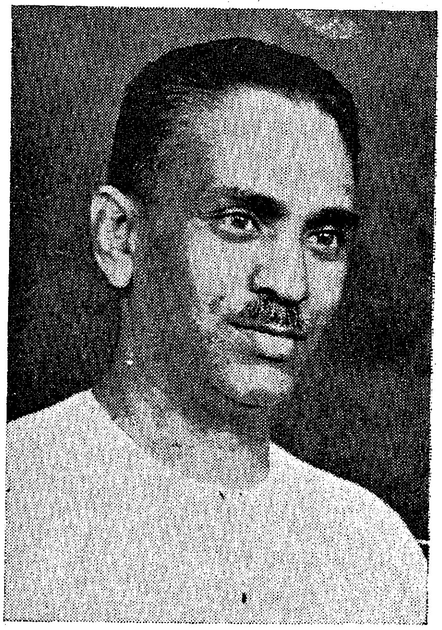


Sri P. S. Kumaraswami Raja

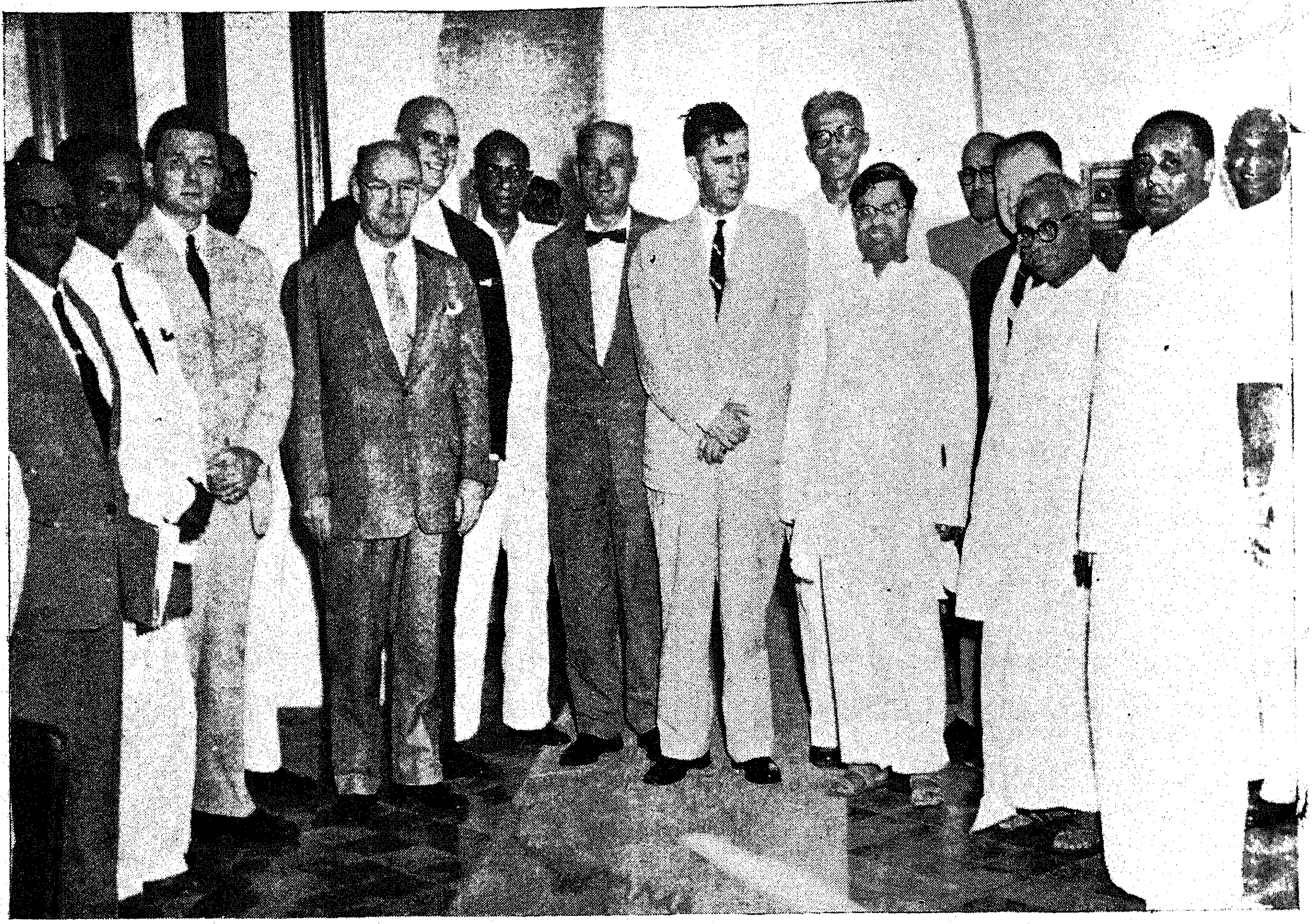
Sri P. S. Kumaraswami Raja, former Governor of Orissa and former Chief Minister of Madras, died at the General Hospital, Madras, in the early hours on 16th March 1957.

Born in 1898 in Rajapalayam, Ramnad District, Sri Kumaraswami Raja entered politics in 1917, when he participated in the Home Rule movement. He underwent imprisonment twice for taking part in the non-co-operation movement in 1932 and again in 1941. An ardent Congressman, he was Vice-President and President of the Ramnad District Congress Committee and was for a long time member of the A.I.C.C. and the Tamil Nad Congress Committee.

He was elected to the Central Assembly in 1934 and to the Madras Legislative Assembly in 1937. He was Minister for Agriculture in Madras in Sri Prakasam's Cabinet in 1946, but resigned the next year. He became the Chief Minister of the State in 1949 and continued in that office till the 1952 general election.

He was appointed Governor of Orissa in 1954, which post he relinquished in 1956 due to ill-health.

Sri Kumaraswami Raja gifted his house in Rajapalayam in 1953 to the public to be used for the advancement of art, research and culture.



The Trade Mission from the United States which was in Madras was entertained to a tea party on behalf of the Government of Madras on 18th March 1957. The picture shows members of the Trade Mission with the State Ministers and the officers of the Government.

(*Continued from the previous page*)

mishap like floods, or breakdown in railways, etc., at least 25 per cent of the requirements of milk supply of the city would be available and this should suffice at least for the vulnerable group, that is children and expectant mothers. This system of milk production is an important phase of dairy development perhaps peculiar to tropical countries. A scheme underlying the same principle has been included in the Second Five-Year Plan for augmenting the milk production of Madras City. One important aspect of the Madras City Milk Scheme is that of the provision made for the large-scale production of green fodder by irrigating with the city sewage water which is otherwise going waste. With a grass farm situated close to the cattle colony, for the abundant supply of fodder at economic rates, it is expected that the Dairy Farm would prove to be a success.

Conclusion.

It is needless to re-emphasize the fact that the dairy industry of this country is of first rate national importance and vast magnitude, the annual cash value of milk and milk products alone being Rs. 700 crores. In spite of the very large cattle population and potential resources, this industry is in a most backward and neglected condition. It is felt therefore that any amount spent and efforts taken to carry out the development plans will not be considered as too large a measure when their working will result not only in increased production of milk and milk products but also production of better quality cattle for the cultivation, both for milk and draught and the general welfare of the suffering humanity, especially of the vulnerable groups.

Along with the increased production of milk steps have also to be simultaneously made to increase consumption and find a lucrative market for the extra milk. Even with the existing production there is need for stimulating the consumption of fluid milk for not only does the sale of fluid milk yield the highest return for producers but all the nutritive constituents contained in milk are best assimilated when taken in the fluid form.

The Educational and Public Health authorities as well as the parents should take up the question of feeding school children with milk. That children should grow into healthy men and women is a matter of national importance. It is also known that the Indian labourer because of his low income consumes very little milk. In other countries, factory labourers consume very liberal quantities of milk. Industrialists and workshops should take up schemes for providing milk to their labourers.

Increased Profits To Fisheries Department

The Demand By Fishermen For 'Pablo' Boats

The Fisheries Department worked at a profit of Rs. 6·64 lakhs during the year 1955–56 as against a profit of Rs. 3 lakhs during the previous year.

Demonstrations were conducted by foreign experts in the use of advanced technical equipment in the Deep Sea Fishing, and experiments were conducted to evolve suitable design for the motorised surflanding craft during the year.

Researches on the biological, hydrological and technological problems of the fisheries of the State, both Marine and Inland, were continued uninterruptedly during the year. Most of the investigations that were on the West Coast has since gone over to Kerala State from 1st November 1956. At the Biological Station, Krusadai, the main items of work were studies on the fishery of the Rameswaram Island and Plankton and hydrography of Kundugal Channel. At the Tuticorin Station similar planktonic and hydrographical research was conducted. Some studies on pearl oysters were also conducted.

Inland Fisheries Research was mainly concentrated at the Fresh Water Biological Stations, Bhavanisagar and Poondi. Investigations were conducted on the Limnology of the Bhavanisagar Reservoir and its fish population. Other studies consisted of experiments on the segregation of carp fry, on Tilapia mossambica and the white carp, cirrhina cirrhosa and studies on water pollutions and fish poisons.

With a view to assess properly and co-ordinate both the inland and marine fisheries research work conducted at the departmental biological and technological stations, the Government constituted a State Fisheries Research Council. This Council was inagurated by the Minister for Agriculture on 25th January 1956. After reviewing the progress of work so far done, the Council formulated programmes for each station for a period of three years.

Deep-sea fishing operations were carried on in the State at different centres with four motor fishing vessels and with indigeneous crafts, viz., 8 dugouts, 5 canoes and 2 catamarans. A total quantity of 265,140 lb. of fish was caught during 1955–56 as against 449,270 lb. of fish caught during 1954–55. There was thus a deep fall in the size of the catches. There is however a slight increase in receipts, which is gratifying, viz., an increase from Rs. 25,773 during 1954–55 to Rs. 26,076 during the year under review. The poor results achieved are attributed to the inefficient and uneconomical old motor fishing vessels of the Department purchased from the Navy disposals in 1946. Most of these vessels have since been condemned by the Government and disposed of and replaced to some extent by the new fishing vessels allotted to this State under the T.C.M. Aid.

Chank Fishery.

Chank Fishery is one of the sources of revenue to the Fisheries Department. Chank Fisheries off Tirunelveli Coast and Sivaganga Coast were conducted departmentally, while the chank fishery rights of the Ramanathapuram District Coast and South Arcot and Chingleput Districts. Coasts were leased to private parties on tender system. During the year under review, 575,961 chanks were fished departmentally as against 408,388 chanks fished during 1954-55. There was appreciable improvement in the chank fisheries.

During the year under report the pearl fishery was conducted in a small scale unlike the elaborate pearl fishery in the previous year as the spat fall during the year was reported to be limited. A total number of 2,129,058 oysters were fished during the operations in 1956. The gross revenue was Rs. 45,454 against an expenditure of Rs. 4,877. Steps are being taken to intensify inspections and investigations so that the future pearl fisheries will be larger and more successful.

The licensing system worked smoothly and there was an appreciable increase in the licence fees collected. The total amounted to Rs. 40,334–4–6 as against Rs. 36,507–12–0 collected during the previous year. The exploitations of Mettur Reservoir fisheries was reorientated during the year by discontinuing departmental procurement and substituting a system of licensing of fishermen. A total of 122 licences were issued during the year and the licensees made their own arrangements to dispose of the catches. The catches were estimated at 380 tons. Mettur is the first large scale reservoir fishery in the whole of India and has attracted much attention.

Fish Marketing Officer.

The Government reviewed the separate post of Fishering Marketing and Information Officer of the grade of the Assistant Director of Fisheries. The appointment of the Officer was intended to contribute to the quicker transport of fish, proper distribution of fish from Mettur, improvements to fish markets, marketing through fisherman co-operatives, improvement in transport procedures, etc. Efforts were made by the Department to popularize the departmental products like semi-dried prawns, fish manure, fishmeal and shell grit during the year.

During the year 1955–56 many additions were made to the Central Fisheries Library. The Fishery Museum was also popular and served as a medium of propaganda for the various activities of the Department. The propaganda unit under th Deepartment visited various

fishing hamlets and explained to them the Department's activities with special reference to the socio-economic rehabilitation of the fisher-folk. The Department should consider the possibility of using audio-visual methods for more effective propaganda.

Though no new fishermen co-operative society was organised during the year 1955–56, attempts were made to revitalise the existing societies by increasing the share capital.

There was considerable increase in the strength of pupils and also the teaching staff in the schools maintained by the Department. In July 1955, the Government sanctioned the free supply of mid-day meals to the children of the fishery schools in West Coast, for two months, as starvation prevailed among the fishermen due to the failure of the fishing season. Besides this, milk powder and American butter oil received through private institutions like the Red Cross, were also served to the pupils. The number of fisheries schools in the East Coast was few. The general question of transfering the Fishering Schools to the control of the Education Department was taken up by Government but it was deferred.

Rehabilitation of fishermen.

With a view to permanently rehabilitate fishermen who were rendered homeless by sea-erosion north of Madras Harbour, the Government sanctioned a scheme at a total cost of Rs. 4,14,500 with adequate provision for sites and other amenities for about 200 families. The work has not yet been completed by the Corporation of Madras.

The cyclone that struck Tanjore, Ramanathapuram and Tirunelveli Coasts in November-December 1955 caused considerable havoc especially among the fisher-folk. They lost their dwellings as well as their crafts and tackles. It is, however, gratifying to note that the Fisheries Department acted quickly and rendered relief measures to those who were affected by the cyclone. Besides the distribution of rice and other foodstuffs and clothing, a sum of Rs. 30,700 was given as cash relief to the fishermen for repairing 449 boats which were damaged by cyclone. Yarn, sail cloth, and ropes worth Rs. 64,450 were also supplied to them.

1·90 crores of fish seeds were collected and distributed against a target of 3 crores. Steps are taken to work the scheme with more vigour, as the successful development of inland fisheries depends on the availability of suitable fish seeds. The target of 50,000 tons of cured fish fixed for the scheme during the year under review was exceeded by 1,070 tons.

The aim of the scheme is to exploit the fishing grounds with improved crafts and tackles and also to demonstrate to the fishermen the advantages of using modern types of mechanised crafts. Against the target of 120 tons of fish fixed for the scheme, 109·2 tons of fish were caught during the year under review. The nylon nets received under the T. C. Aid proved more durable and lasting than the age long cotton or hemp nets.

Services of Foreign Experts.

Under the Expanded Technical Assistant Programme of the Food and Agricultural Organisation, the services of six Foreign Experts were made available to this State by the Government of India. Mr. Paul Ziener, F.A.O. Naval Architect (of Denmark) finalised the design and trial of small motorised boats which have since been called the Pablo boats. It is encouraging to note that the demonstrations conducted with the Pablo-type fishing boats aroused keen interest and demand among the fishermen for such boats on account of their utility and advantages. Mr. Ziener also completed the motorisation of the Tuticorin Type of fishing boat. Mr. Ziener and Mr. K. K. Rasmussen, the second Naval Architect also conducted experiments to evolve a suitable design for the motorised surf-landing craft. As the experiments were inconclusive, further experiments were being continued.

Mr. G. Illugason, the F.A.O. Fishery Engineer (of Iceland) located fishing grounds during the exploratory fishing conducted by him off Cuddalore, Adirampattinam and Nagapattinam on the East Coast and on the West Coast with the modern fishing vessels and tackles received from the T.C.A. aid. He also trained fishermen in the use of Nylon gill nets. These fishing grounds should be exploited by the Fisheries Department scientifically.

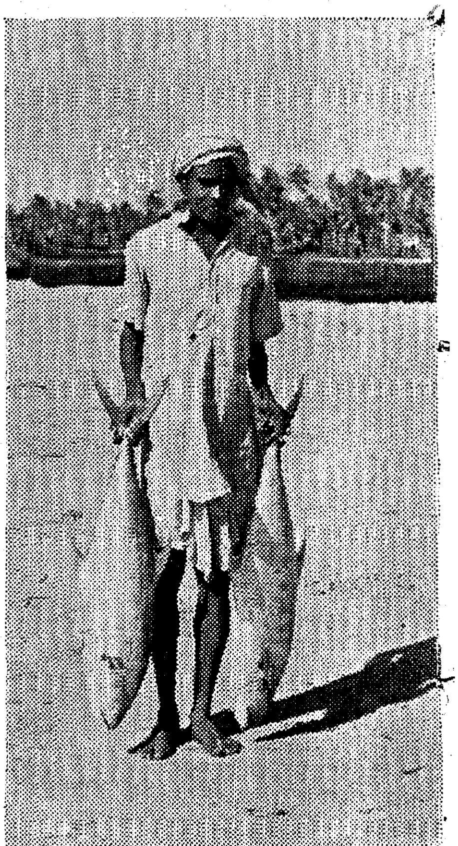
Mr. C. G. Bjuke and C. R. Bjuke and Harbour Specialists (of Sweden) conducted a rapid survey of the river mouths and back-waters in this State and their report is awaited.

Mr. P. A. Lusyne, the Fisheries Training Expert (of Belgium) completed arrangements for starting the Fisheries Training Centres at Tuticorin and Cochin to be conducted with the financial assistant of the Government of India.

Counter-part assistance were provided for the experts to assist in the investigations and for getting trained to carry on the work after the period of assignment of the Experts.

Fishing Calendar

The Fisheries Department has brought out two booklets entitled, " A fishing calendar for the West Coast of Madras State " and " a fishing calendar for the East Coast of Madras State ". These booklets give information about the fisheries that can be expected during each of the twelve months of the year at 93 important fishing centres along both coasts.



Books and Publications

IRON AND STEEL

Published by the Publication Division, Ministry of Information and Broadcasting, Government of India (Price As. 6).

This is a timely publication. Under the Second Five-Year Plan, the Government have embarked upon an active policy of industrialising this country and in this Iron and Steel, as everybody known, have a vital role to play. These are basic industries in the sense that many other industries depend upon them. If you want to start a cotton mill, or a jute mill or a sugar mill, you need plants and machinery and these are made of iron and steel. Even the basic industry of this country, viz., Agriculture, needs iron and steel for the manufacture of agricultural implements. These metals are also needed for buildings, pipes, tubes and wires, motor cars, railways, steamships, aeroplanes and a thousand other things which are in frequent use in the national life of this country.

Fortunately India is well-placed in the matter of iron and steel. She has plenty of iron ore as well as coal and other materials necessary for the production of steel. But, however, before Independence, this industry did not receive sufficient attention, though even as early as 1830, it is on record that the manufacture of iron on a large scale was done in the then Madras Presidency. Other places in India also took to it, but all the same the industry had to encounter several handicaps. A land-mark was, however, registered in 1907, when the Tata Iron and Steel Works at Jamshedpur was brought into being. Since then, the progress entered on a straight course. It had, no doubt, to meet a number of hurdles, but despite these it managed to keep itself afloat until the end of the Second World War. The position at this period in terms of supply and demand was that ~~there~~ was a big shor- rare tage of these so much so that ~~th~~ tional Government chalke[illegible]tre at this his sidered policy in this n[illegible]

consisted on the one hand in helping the existing units of the industry to expand and on the other in setting up new plants. The scheme is financed by the Government of India and also by the International Bank. As a result of this expansion programme, it is expected that by 1960 between private and public sectors, India will be able to produce 4·5 million tons of finished steel or 6 million tons of ingots and production is likely to exceed the requirements of the country.

The pamphlet gives an illuminating account of the various stages in the progress of this industry from the early decades of the 19th century. It is also sumptuously illustrated and neatly got up. It is sure to prove a useful hand-book not only to those interested in the industry but also to the general reader.

2. FOREIGN AID FOR THE PLAN

Published by the Publication Division, Ministry of Information and Broadcasting, Government of India (Price As. 8).

It is an obvious fact that the financing of the Five-Year Plan is no easy task. Our country is poor and there is not enough capital to go round. The low level of individual incomes leaves no scope for taxation. So it is necessary that we should have external help. This has been the case with every country in the East, not only India. Our national leaders made it a point to accept financial help from outside, only if it is without strings. It only speaks of the good reputation and international stature of our leaders that many countries had come forward and assisted us with men and money. Of these countries, the U.S.A. comes first. To start with there is the Ford Foundation which has been functioning in this country since 1951. It has provided financial aid for a number of welfare programmes such as the development of rural areas, the development of small scale and village industries and the advancement of education. Under the Indian Emergency Food Act, the U.S.A. also provided sufficient money and foodgrains for this country. Under the point four agreement, provision was made for the loan of American experts for particular projects and for the training of students in the United States. The Indo-American Technical Co-operation programme was another device under which the U.S.A. aided this country.

The "Colombo Plan" comes next. This plan is one of the world's largest programmes of economic development. Under this plan industrially advanced countries such as U.K., Australia, Canada, Newzealand, not to speak of of U.S.A., have contributed much to improve the standard of living of the people in the South and South-east Asia. India was able to complete some of her major projects with the assistance extended under this Plan. The Government of Norway also have assisted the economic development of this country. According to the terms of an agreement, it has undertaken to provide a good sum of money for the Fishery Development in the West Coast of India. Not only in money but in personnel also have the Government of India received a generous measures of assistance.

This publication is a mine of information regarding the foreign aid for our national plan. It is neatly got up and is well worth perusal.

—*Thomas K. George.*

* * * *

The Government have passed orders directing the constitution of a State Fisheries Advisory Board with the Minister for Agriculture as its Chairman.

The Board has been constituted in deference to the suggestions made by certain members on the floor of the Legislative Assembly.

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(South India)

(*Continued from page* 24)

Let us see what happens when decimal coinage comes in vogue. The price of the same cigarette packet in naye paise will be 69, and one cigarette would cost 7 naye paise, one naya paisa less than the equivalent value of 5 paise, which is 8 naye paise. One might say that the shopkeeper may not pass on the advantage to the customer and present to him the price of 8 naye paise as seen from the conversion table against the value of 5 paise.

This could happen if there were no other shopkeepers in the field. As it is, if another shopkeeper finds that he gets his expected margin even by selling an isolated cigarette at 7 naye paise, he would be only too eager to tempt the customer to himself by offering this better bargain. This constant threat, which is also called healthy competition, will discourage any one of the shopkeepers to charge more than this minimum economic price.

Retail transactions.

This is a general proposition and one can safely assume that for retail transactions, the smaller prices will tend to become somewhat more favourable to the customers when prices are expressed in naye paise. In wholesale prices, the conversion of annas and pies to naye paise will mean insignificant change—the difference of a quarter or a half naya paisa in the comparatively big sum being of no material consequence at all.

Often another difficulty is raised. If there is a small rounding up in rates and prices due to conversion, would not this mean sizeable losses if the transaction involves large quantities ? This is somewhat hypothetical. Even now no one buys a *mun* (maund) of rice at the price for which a *chhatak* is sold in the retail shop the price in *muns* (maunds) is quoted separately and is of course considerably less than the price obtained by multiplying the *chhatak* value by 640 (640 *chhataks* make a *mun*).

As for rates, such as 5 pies per mile for railway travel, it is obvious, ordinary people are not expected to work out their own fares. Their tickets have the amount written on them ; in future instead of Rupees, Annas and Pies the amount would be in Rupees and Naye Paise. It is for the rate fixing authorities to get the various rates such as pies per mile for railway fare, annas per rupee for rebates, paise per rupee for sales tax, etc., which have been based so far on annas, paise and pies, disentangled from these obsolete terms and have them rationalised and refixed in naye paise per rupee, which is the same thing as fixing the rates in percentage form. This will greatly facilitate calculations, and sooner it is done the better.

So far we have been talking of the benefits naya paisa brings to the common man in his every-day transactions. The main advantage of the decimal system of coinage is, of course, the great facility and simplification it offers in calculations and accounting. This is all too well known to require recapitulation now. This facility is further increased if weights and measures are also in the metric system. Our enlightened Parliament has already authorised the Government to go ahead speedily with the whole reform. Decimal coinage leads the way.